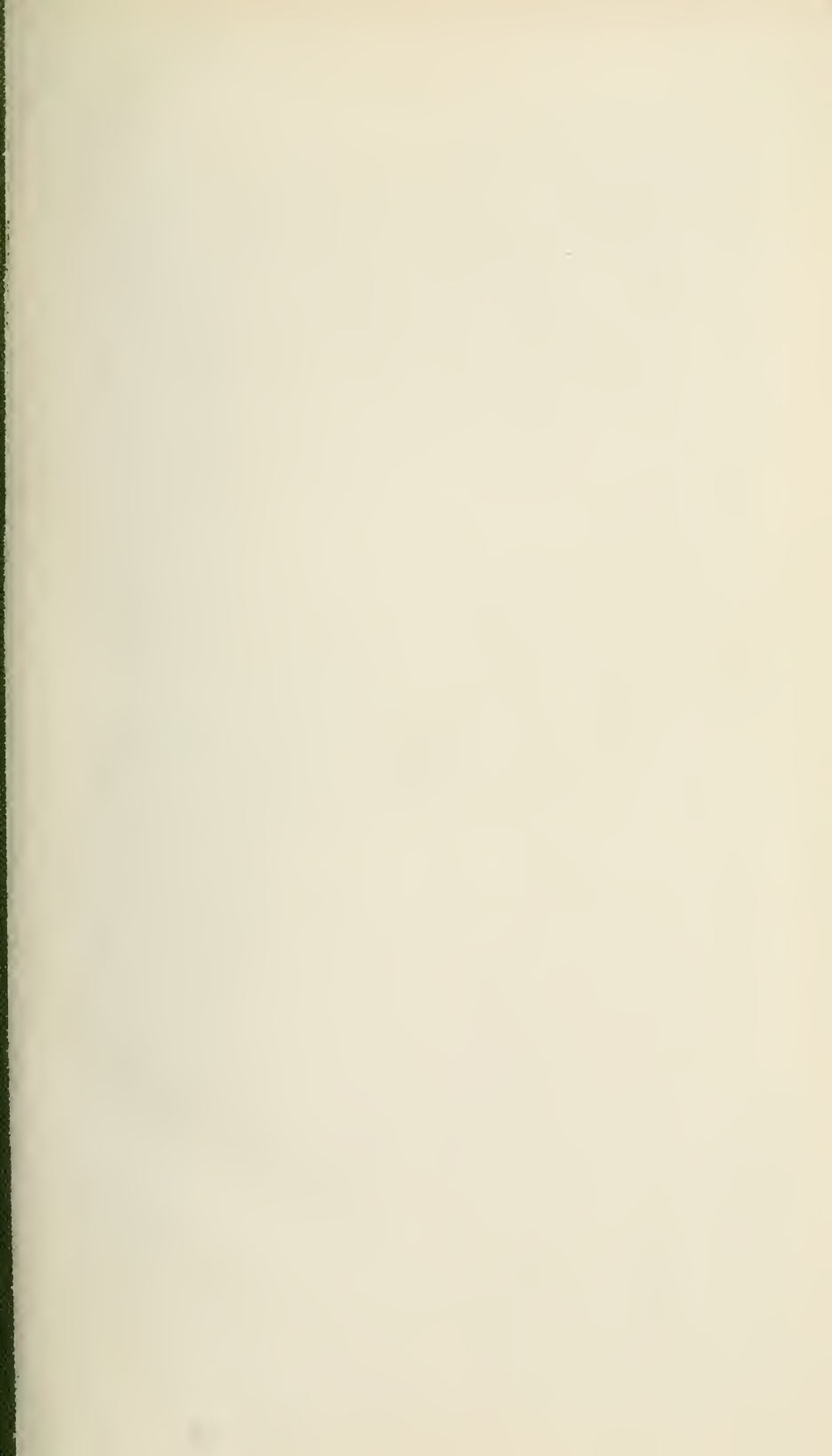


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OF THE

MEDICAL SCIENCES.

EDITED BY

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SURGEON TO WILLS HOSPITAL,

PHYSICIAN TO THE PHILADELPHIA ORPHAN ASYLUM, &c. &c.

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Mental Hygiene, or an explanation of the Intellect and Passions, designed to illustrate their influence on health and the duration of life. By William Sweetser, M. D., late Prof. Theory and Pract. Physic, and Fellow Am. Acad. Arts and Sciences. New York: J. & H. G. Langley, 1843. (From the Author.)

A Practical Treatise on the Management and Diseases of Children. By Richard T. Evanson, M. D., Prof. of Med. in the Royal College of Surgeons, Ireland, and Henry B. Maunsell, M. D., &c. Second American edition, with notes. By D. Francis Condie, M. D., Fellow of the College of Phys., Philadelphia, and M. A. P. S., &c. Philada: Edward Barrington & Geo. D. Haswell, 1843. (From the Publishers.)

The Kidneys and Urine. By J. Berzelius. Translated from the German, by M. H. Boyè and F. Leaming, M. D. Philadelphia: Lea & Blanchard, 1843. (From the Publishers.)

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Dissertation on the Diseases of the Maxillary Sinus. Read before the American Society of Dental Surgeons at their third annual meeting, held in Boston, July 20, 1842. By Chapin A. Harris, M. D., Prof. of Practical Dentistry in Baltimore College of Dental Surgery, &c. Philadelphia: Lea and Blanchard, 1843. (From the Author.)

A Lecture on the Magnetism of the Human Body. Delivered before the Apprentices' Library Society of Charleston, S. C. By Robert W. Gibbes, M. D., of Columbia, S. C. Published by request of the Society. Columbia, 1843. (From the Author.)

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Meteorology: comprising a description of the Atmosphere and its phenomenon, the laws of Climate in general, and especially the climatic features peculiar to the region of the United States; with some remarks upon the climates of the ancient world, as based on fossil geology. By Samuel Forry, M. D., with 13 illustrations. New York, 1843. (From the Author.)

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Address delivered before the Stark County Medical Society, May 2, 1843. By William Bowen, M. D. Also an Abstract of the Proceedings of the Meeting, with the Constitution and Code of Ethics adopted by the Society. Published by order of the Society. Massillon, 1843. (From the Society.)

Homœopathy Illustrated. An address, first delivered before the Rensselaer County Medical Society, at the annual meeting in the city of Troy, June 14, 1842. And by request repeated before a popular audience, June 18, 1842. By Thomas W. Blatchford, M. D., President of the Society. Second edition, revised and enlarged. Albany, 1843. (From the Author.)

Twenty-sixth Annual Report of the state of the Asylum for the relief of persons deprived of the use of their Reason. Philadelphia, 1843. (From Dr. C. Evans.)

The Physical Diagnosis of Diseases of the Lungs. By Walter Hayle Walshe, M. D., Prof. Pathol. Anat. in University College, London; Physician to the Hospital for Consumption and Diseases of the Chest, Member of the Medical Society of Observation of Paris, &c. Philadelphia: Lea & Blanchard, 1843. (From the Publishers.)

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Fourth Annual Report of the Registrar General of Births, Deaths and Marriages, in England. London, 1842. (From the Registrar General.)

Fifty-sixth Annual Report of the Regents of the University of New York, made to the Legislature March 1, 1843. Albany, 1843. (From the Regents.)

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Lithotripsy; or the Breaking of Stone in the Bladder. By Alban Goldsmith, M. D., late Prof. of Surgery, &c. New York, 1843. (From the Author.)

The Horse, by Wm. Youatt. A new edition, with numerous illustrations. Together with a general history of the horse; a dissertation on the American Trotting Horse, how trained and jockeyed, an account of his remarkable performances; and an essay on the Ass and the Mule, by J. S. Skinner, assistant postmaster and editor of the Turf Register. Philadelphia: Lea & Blanchard, 1843. (From the Publishers.)

Catalogue and Circular of the Albany Medical College. Albany, 1843. (From the Faculty.)

Catalogue of the Officers and Students of Kemper College for the Academical Year 1842-3. St. Louis, 1843. (From the Faculty.)

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An Introductory Lecture delivered in the Castleton Medical College on the 10th April, 1843. By James M'Clintock, M. D., Prof. Anatomy and Surgery. Albany, 1843. (From the Author.)

Third Annual Announcement of the Baltimore College of Dental Surgery. Baltimore, 1843. (From the Faculty.)

Facts and Arguments on the Transmission of the Intellectual and Moral Qualities from Parents to Offspring. New York: Wiley & Putnam, 1843. (From the Publishers.)

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JULY, 1843.

ARTICLE I.—*Cases of Phlebitis, with some preliminary remarks on its Pathology and Treatment.* By N. CHAPMAN, M. D., Professor of the Theory and Practice of Medicine in the University of Pennsylvania.

It is only of late, that the pathology of the veins has been cultivated with any sort of success. Nothing indeed, was known of it, of any value, prior to 1784, when the celebrated Mr. Hunter read a paper on inflammation of these vessels, before the Society for the Improvement of Medical and Chirurgical Knowledge, which was printed nine years afterwards, in the transactions of that body. But it seems not immediately to have attracted general notice. Even Bichat, determining from his immortal work, *Anatomie Générale*, published in 1801, so recondite and comprehensive, was unacquainted with the preceding researches. Thirty-two years ago only, when I had occasion, from the occurrence of a very bad case of phlebitis in my own practice, presently to be related, to consult the authorities on the disease, I could find scarcely any thing regarding it. Commenced however, by Hunter, the investigation has since engaged the attention of several very able men, particularly within the last few years, who have made great advances in it.

As phlebitis shows itself, in an external or superficial vessel, there is pain, vastly increased on pressure, with swelling, stiffness, and a streak of redness along its course—the affection proceeding nearly always I believe upwards, in the direction of the current of blood to the heart. No instance have I seen to the contrary, and the fact is confirmed by general observation. The only exception, so far as I know, is related by Mr. Abernethy. Not here, passing up at all beyond the wound, the phlogosis descended down to the wrist. Constitutional disturbance is soon betrayed by febrile and other manifestations. The local affection rapidly advances, the pain is more poig-

nant, and the tumefaction sometimes enormous. Located in a limb, this may be of more than double its natural size, the skin tight, smooth, even glossy, and rather white than red, or purplish. The fever, at this period, may become decidedly typhoid, marked by extreme prostration, a feeble, rapid pulse, sometimes intermittent or otherwise very irregular, nausea and vomitings, præcordial uneasiness, hurried respiration, deep sighing and dejection of spirits, foul coated tongue, meteorism, sallow skin, much cerebral and nervous disorder, low muttering delirium, and subsultus tendinum, with a haggard, wild, distracted countenance. Chills or rigors, and rheumatic like aches, in the joints, or wandering about the cavities of the body, also exist.

It is not pretended, that such is the tenor of the affection. The case delineated, is one of violence, which has run through its course probably to suppuration of the vein, neither arrested nor abated. Frequently it is milder, or we are more successful in the management, and it passes away without any severity. Yet I have seen a case, even more terrible in several of its features, than has been described. Delirium or rather phrensy, with occasional spasms, and convulsions, soon came on, so fierce, so vehement, so continued, that several men were required to be always in attendance, to prevent the individual from doing injury to himself or to others.

I have hitherto, had reference to phlebitis of the upper extremities, and more especially, as induced by venesection. But it occurs also, in the vessels of the inferior limbs, and as alleged, is productive of very wide-spread mischief. No doubt they have the same susceptibility, and being exposed to similar causes, would be equally affected. From venesection, however, I have seen only one case. My allusion is more directly to the extraordinary disease termed phlegmasia alba dolens, which is, at present, so confidently imputed to inflammation of the iliac and femoral vessels, as to be entitled crural phlebitis. Dissenting entirely from this hypothesis, as well as the extension of it to puerperal fever, as has recently been done, I shall reserve the discussion of this point to a subsequent occasion. Now, I deem it sufficient to remark, that among many other objections to it, both of the affections have again and again occurred when no lesion of the vein, could be detected.

Deep-seated veins have not an immunity from such attacks. The vena cava, hepatic, splenic, spermatic, renal, vesical, vena porta, the pulmonary, the cerebral sinuses, &c. have all been found in this state. But as to the symptoms by which each or any one of them is designated, or even of the general condition exhibited, we have no precise or satisfactory information. An exception, perhaps, should be made in relation to the umbilical, which is unquestionably subject to inflammation and its effects after birth, is now maintained to be generally connected with the fatal erysipelas of new-born infants. Whether it be so, I cannot determine.

But of this I am entirely satisfied, that neither in the exanthematous,

nor the common typhous fevers, are the veins so deeply implicated as to warrant in any degree the conjecture, lately advanced, of the intimate dependence of these diseases on this pathological condition. Further, whichever of the veins may be affected, when suppuration takes place, the pus thus secreted, we are told, may be eliminated from the circulation, and deposited in any part of the body, though in the lungs and liver most uniformly, productive of abscesses, and of a series of secondary affections. Conceding that such purulent collections may ensue, of which indeed I have seen several, it has appeared to me that, not formed in this way, they were abscesses similar to those which are so often to be observed as coincident with other low and malignant diseases. They undoubtedly arise in the liver from a mere sympathetic irritation derived from an injured brain, or according to Morgagni, in any of the abdominal viscera, and so probably do they in the present instance. But the notion I am combating, seems to me completely refuted by the fact of their constantly occurring in the total absence of phlebitis. Both Velpeau and Tessier declare that they are extremely common,—the latter ascribing their production under these circumstances to a general *purulent diathesis*!

It very rarely happens that phlebitis originates spontaneously. Never have I seen a case of it, or met with any on record, which I would admit as indisputable. Cruveilhier, I am aware, it is said, has related one of the vena porta, which is often quoted. But so far from this being true, he expressly says, that the suppuration was of the cellular sheath,—the vein itself being perfectly sound. Generally it proceeds from some mechanical injury done to the vein by venesection, or other surgical operations, amputation, the extirpation of tumours, and such like deep, and extensive incisions, involving large vessels. The tying of varicose veins, as was formerly practised so commonly, as a cure, proved a very prolific source of it, and we are not without examples of its happening in the same way, to the hemorrhoidal veins, of which, I once saw an instance, under the care of the late Professor Physick. Compression from adjacent tumours, does also induce it, and much is imputed to the introduction of a virus into the circulation by inoculation, or otherwise. Breschet goes so far as to affirm, that it may be occasioned by bleeding with a lancet previously used in vaccination, not thoroughly cleaned, and he cites several cases, where it proceeded from the cuts of a scalpel, charged with the matter of putrid bodies. Even the washing their excoriated hands, in water, employed in the protracted maceration of flesh, he saw do it in some of the attendants on a dissecting-room. Dance mentions an instance of a surgeon, who died of an attack of it, brought on by puncturing a small phlegmon with a carefully wiped bistoury, with which he had, a month before, laid open an anthrax. Numberless facts to the same purport, might be adduced.

As a common cause, is also held to be the absorption of pus or acrid fluids from foul ulcers, or the secretions of various surfaces, as of the uterus and other

organs, and parts, to which so much, we have seen, has been referred in the production of *phlegmasia dolens*, &c. But in respect to the latter, I have always been exceedingly distrustful, and cannot help believing, that under these circumstances, the inflamed veins, which may be detected, have become so by a derivation from the structure through which they pass being previously in that state. For example, in hepatitis, or pulmonitis, &c., discovering these vessels phlogosed, it is to be taken as the effect, and not the cause, the secondary, and not the primary lesion. This proneness of the veins to be thus affected, was remarked by Hunter, especially in those who had died of amputation, compound fractures or gangrene, and the observation does not want confirmation. My impression on the whole, is, that phlebitis is owing almost exclusively to a wound of the vessel, and that it is perhaps, never directly occasioned by a virus. Certainly, it may be excited independently of any. There are times and individuals, at all times, when the slightest incision or puncture, or even a scratch will lead to the most disastrous results of this nature, from the cleanest instruments. Every practitioner is aware, that at particular seasons, phlebitis is very apt to follow venesection, and I have known a lady for thirty years, who has never been bled during that period, however carefully the operation may have been performed, without suffering in some degree from it;—and on three occasions so severely, as to place her life in imminent danger. Even the pricking of a finger from a needle, brought on immense tumefaction of the arm, up to the shoulder, with the other phenomena of well marked phlebitis;—and the late Professor Physick, who saw the case with me, mentioned that he had met with two others precisely like it. The instances of tumefaction from the insertion of a virus, I presume to be affections of the lymphatics. Notwithstanding all which has been urged of late to the contrary, I cannot believe that veins in any mode are absorbents;—and it is truly said by an eminent authority, “that whatever may be found in those vessels, whether pus, or other unusual matters, is generated within, and not introduced from without.”

Except in traumatic phlebitis, and particularly from venesection, it is not uniformly easy to distinguish the disease, and when seated in the veins of the interior, never, perhaps, with any precision or certainty. The obscurity arises, under the most favourable circumstances, from the resemblance it bears to the inflammation of the lymphatics, and still more to that of the cellular tissue. Between these three affections, at their height the difference is the less appreciable, since the cellular membrane mostly becomes involved, in which event, the peculiarities of the others are merged and concealed. Diffusive inflammation of this tissue, fills up all interstices and inequalities, forming a perfect rotundity of surface, dense, smooth, and polished. But in the early or last stage, prior to excessive tumefaction, or on its subsidence, the phlogosed vein may be felt in a tortuous course, hard and knotty, and sometimes, also, the lymphatics enlarged and indurated.

That this is a dangerous disease sufficiently appears from the preceding

history of it. 'Timely attended to, it is for the most part, easily arrested. But permitted to proceed till the vein is intensely inflamed, and especially suppuration has freely taken place, with the establishment of the multiplied sympathetic affections incident to this stage of the case, our efforts are mostly impotent, and death is to be anticipated. Yet, in a state apparently so desperate, the natural resources are sometimes applied successfully.

By Hunter it was declared, that the veins in phlebitis reveal on dissection, inflammation, suppuration, and even ulceration. Experience has since fully confirmed the accuracy of his report, and to which, in relation to the appearance of the vein itself, little has been added. Beginning usually in the internal or lining tissue, the phlogosis, when intense and persistent, may pervade the whole of the vascular parietes. Extravasations of lymph are common, and distributed in a similar manner. Deposits of it are on either surface or both, and inter-tissual, or in other words between the membranes. The same may be said of pus, and of ulceration, existing in one or the entire coats. But of these several anatomical characters, something more must be said. The inflammation is faint, or of a rose, or of a deep scarlet, or brownish hue, in specks, or striated or arborescent, local or extending along to the heart, continuously or in detached patches, between which the intervening spaces are healthy. Collections of pus and of lymph, are detected sometimes in the calibre of the vessel to an amount very seriously to embarrass, or even to obstruct the circulation, and coagula of blood have been seen, though seldom, separately or united to the other matters, having the same effect. There are instances too, where, from adhesions of the sides of the vessel a total obliteration is produced, and should recovery take place, it becomes ultimately a dense, impervious cord. The ulcers are few or many, superficial or deep. I once saw several that had gone entirely through the walls of the vessel. Lymph having been deposited on the exterior surface, it occasionally agglutinates the vein to the surrounding cellular surface and abscesses are formed. Generally the texture of the vessel is softened, sometimes to pultaceousness, and in one instance, from the colour, the odour, and other circumstances, I had reason to suppose the existence of gangrene, as well of it as the adjacent cellular membrane.

These are the principal lesions, which may be restricted to a single vessel or extend to others more or less diffusively—or indeed, according to some writers, involve any one, or every organ of the body at different times in inflammation and its consequences. Excepting, however, the purulent depositions previously noticed, I am not sensible of any thing in the consequent derangements meriting further attention. Disseminated through the structure of the organ, they are detected from the size of a pea to a walnut, or sometimes double or treble, or quadruple the size, the number always larger as they are diminutive. They are infiltrations of pus collected at a point or points, and not properly abscesses, as they have seldom or never any regular cyst. The organ is usually found mostly inflamed immediately around the

deposit. It is the fashion of the day to elevate in importance and frequency the diseases of the veins, and the accounts we receive respecting them are exaggerated, and must be received with qualifications. Even more than the heart and the arteries are they susceptible to *imbibition*;—and mere redness, which I suspect has been too readily admitted as evidence of phlogosis, proves here equally delusive. Coloration, with heavy injection of the vessels of the surface warrant a suspicion of the existence of this state, though not conclusive. Demonstration of it is only afforded by the presence of lymph or pus, or thickening or softening of tissues or other changes of structure.

Contemplating the pathology of this affection, we are, at once, struck with some circumstances in it exceedingly anomalous and heteroclite. The mode sometimes of its origin,—and that a trivial lesion of a vein, so often extensively injured with impunity, should lead to such wide constitutional disturbance, and this nearly always showing a tendency to typhoid debility and vitiation, are certainly very extraordinary. I have already alluded to the singular predisposition in these cases, without however assigning the nature of it, which I am unable to do. It occurs, perhaps, most frequently in various cachectic states, while on other occasions it is met with apparently in the soundest and most healthy conditions. Could it be demonstrated, that the local inflammation was rapidly and widely diffused through the veins, so as to embrace any large portion of them, then an explanation would be afforded of the enormous mischief produced. Granting it sometimes happens, it cannot be averred that it generally does. The contrary indeed is nearer true, or that in a large number of instances of traumatic phlebitis, especially from venesection, the inflammation is restricted to a few inches from the wound, and though it may run up to the heart, it seldom involves other veins. The phenomenon is only explicable on the supposition of the sympathies of the rest of the veins with the affected one. Considering that these vessels form a natural and homogeneous system, engaged in the same operations, it is presumable independently of other proof, that they have a very intimate consent of parts, by which there is a reciprocity of sufferings, oftener however of functional irritation than positive disease;—or in other words, that what was primarily a local phlegmasia, is rendered a constitutional affection, without an extension of actual inflammation. Different, however, is it in a more advanced stage of the case, where the adynamic degeneration has supervened. Great reason is there to suppose that suppuration here exists, and that the immense change thus suddenly wrought in the character and physiognomy of the disease proceeds from the mingling of pus with the blood. Endo-carditis alone, to which it has been imputed, will not account for it. The phenomena of the two cases are dissimilar, and those of the veins precisely such as are induced by injecting certain fluids, and above all, putrid fluids, into the circulation. Nor is the amount of matter secreted inadequate to the effect. In three

extremely grave instances of phlebitis from bleeding, attended by me, at each visit I pressed out of the orifice of the vein, half an ounce or more of an ill-conditioned or illaudable pus.

Not conversant with any other form of the disease than that of which I have just spoken, and entertaining the conviction it is the only one capable of recognition with any certainty, at all events in time to do any thing efficient, I shall confine my practical remarks to it. These, however, should a case of spontaneous origin be detected in season, will be equally applicable to it, so far, at least, as concerns the general treatment.

We are, in the first place, to support the limb, so as to secure an absolute state of rest, and which can only be attained by putting it into a nicely adjusted case. It is very much the custom here, to have one carved, that it may be more exactly accommodated to the contours of the part, by which the main object is better secured, and the pain of motion prevented. The suspensory sling, made of a handkerchief, tied round the neck, commonly used elsewhere for the arm, is a miserable contrivance, having unquestionably often led to the most disastrous consequences. The antiphlogistic plan is now to be adopted, and, as part of it, venesection would seem to claim priority of attention. Experience however teaches, that the benefit resulting from it is never proportioned to what might be reasonably anticipated,—that it is sometimes utterly unavailing,—and that a very serious objection to it, is, that it is very apt to be followed by a fresh attack of phlebitis, evidence of which has come under my own observation. It may, therefore, be best, not to resort to it unless excitement is high and general,—leeches, on the whole, being decidedly preferable. These are to be liberally applied along the course of the vein, and again and again repeated. Emollient cataplasms or fomentations may also be useful, and especially where the swelling is extensive. The case proving obstinate, menacing a serious career, of all remedies the one deserving of the greatest confidence is a blister. Numerous are the instances in which I have witnessed its superior efficacy, and I believe there is little division of sentiment, as to its extraordinary value, among the profession in this part of the country. From what I have seen and heard I cannot entertain a doubt that it will at once arrest a large majority of cases. But though coming from the late Professor Physick—published by him some forty years ago, and since frequently alluded to with the highest commendation in the writings of this country, it seems to have attracted scarcely any attention in Europe, or, at least, I do not find it noticed in the treatises on the subject I have consulted, with a solitary exception. Cooper, in his *Surgical Dictionary*, appropriates a paragraph to it, without praise or censure. The manner of application is, to place a narrow strip of epispastic plaster along the course of the vein, as far as it appears to be inflamed, cutting an opening in it at the orifice, over which a soft poultice is to be placed, and the blister having drawn, is to be so dressed as to be kept freely discharging. Little further of any peculiarity appertains to the management of this state of the

affection. Evacuations of the bowels, and the ordinary antifebrile mixtures are usually directed. But enormous doses of tartarised antimony are recently praised, and so is the profuse use of mercury. It is difficult to discern the motive for such practice,—there is no evidence of its success, and much in it to condemn. Chiefly do I rely, at this juncture, on a combination of calomel, ipecacuanha and opium, in moderate portions, and where pain and restlessness are prominent, increase considerably the latter article, or give at once the Dover's powder largely. The promotion of perspiration, I very strongly suspect, has not here been duly appreciated.

As the case advances, the indication arises to prevent the pus, the secretion of which may now be apprehended, from being transmitted to the heart. and with this view divers expedients have been suggested to interrupt the communication. Compression above the orifice was practised by Hunter, so as to obliterate the canal by adhesion of the sides of the vessel. But this having failed, after a fair trial, was abandoned, and a division of the vein substituted with probably no greater success. Discouraged from the further prosecution of it, a ligature was next advised, and which, though promising more fairly, I do not know has ever been attempted. The project, therefore, of arresting the pus, would seem to be deemed hopeless.

That the first two operations should not have answered is sufficiently intelligible. Compression adequate to the end could not be made, it is presumable, without at the same time interrupting the arterial circulation, and independently of the pain induced by it, I doubt exceedingly its feasibility at all, in a limb so swollen as happens at the period when the experiment becomes justifiable. Cutting the vein in two, does not intercept the progress of the blood effectually, while every objection to the ligature applies to this operation in an equal force. Determining, therefore, on any of these expedients, the ligature should be preferred. Yet it must be confessed, that it would be a very serious affair to lay open and tie a vein in the state of parts so irritated as they are when the operation is most demanded, and whether it would be for good or for evil, is uncertain.

Caused as it may be, whether by the introduction of pus, as I think it is, or in any other mode, when the typhoid malignant stage sets in, whatever is calculated to uphold or renovate the vital forces, is resorted to, with however seldom any advantage.

Designing to annex some cases, in which the treatment of this affection is more detailed, I have now, to avoid the prolixity of repetitions, presented only an outline of it. The first of these cases is probably the second on record of suppurative phlebitis, it having been preceded only by the one reported by Mr. Hunter, to which I have before alluded.

It is given as it was originally published more than thirty years ago, in the *Eclectic Repertory*, one of our Journals, which will account for some circumstances in the narrative, not otherwise very intelligible.

CASE I.—In the month of March 1810, I was requested by the late Mr. Thomas W. Francis, of this city, to visit his coachman. On inquiring into the case, I learned that three days before, while on a journey, he had been attacked in the evening with slight symptoms of pleurisy, which very readily yielded to a moderate bleeding.

The next morning he felt for the first time some degree of pain and tension in the right arm, in which he had been bled. But the uneasiness was so trifling, and in other respects he was so well, that he continued on the journey. The exertion of driving, as might have been expected, aggravated exceedingly these affections. Yet such was his anxiety to reach home, that he studiously disguised his real situation, lest he might be left behind—and obstinately persevered against every remonstrance, to perform his duties as coachman. But on the last day of the journey, overcome by the severity of his sufferings, he reluctantly consented to be placed in the carriage, and was in this way conveyed to the city.

My attendance on him commenced in the night, an hour or two after his arrival. Even at this early stage, the case presented a very serious aspect. The arm was swelled to perhaps twice its natural size, and the pain and inflammation were excessive. By pressure, a copious stream of purulent matter issued from the orifice, and I could distinctly trace the enlargement of the vein for several inches, imparting the sensation of a hard, inelastic tube enclosed under the integuments.

Nor were these the only untoward circumstances of the case. There was also considerable pain in the left side, with a universal soreness pervading his body. Little or no fever was indicated by the pulse, which was weak, irregular, and quick;—of a contracted volume, and rather corded. It was more a disturbed than a febrile pulse—certainly evincing nothing of an inflammatory diathesis. But though apparently not much if at all feverish, he was greatly harassed by restlessness and inquietude. The temperature of his body was unequal and fluctuating. When his attention was fixed by conversation addressed directly to him, his mind seemed perfectly rational: but otherwise he quickly became flighty;—talked incoherently, and endeavoured to get out of bed. Whatever were my doubts as to the ultimate event, I entertained none respecting the nature of the complaint, or the cause which had produced it. I was at once satisfied that the whole of the existing mischief was attributable to inflammation of the vein, extending probably to the heart, and to the introduction of pus into the blood. To the latter cause I the more promptly imputed the train of nervous affections, as I had seen in a series of experiments, phenomena of the same kind induced by the injection of pus, of milk, of oil, of mucilage and other bland fluids into the veins of different animals.

Nor could I hesitate long as to the practice to be pursued. To subdue the inflammation of the vein, and arrest the pus in its passage to the circulation, were obvious indications.

Notwithstanding the feebleness of arterial action, I bled him to the amount of twelve ounces. I suspected a state of depression, and thought it not unlikely that the pulse might rise by depletion. Where so large a vessel was inflamed, and seemingly too, the heart itself, it certainly was not unreasonable to conjecture that the want of diffused excitement was owing to this condition of the system.* But my anticipations were not realized. The bleeding was indeed followed by no sensible effect, and the blood was without any very peculiar appearances. It did not, it is true, separate as it ordinarily does. The serum and crassamentum were commixed, as if slightly stirred together. I could detect no pus in the blood.

I next enveloped completely the arm with a blister from the elbow to the shoulder, excepting at the puncture, which was covered with a small emollient poultice to facilitate the evacuation of the matter. During the night I ordered, moreover, that he should take at stated intervals a solution of salts till it purged him actively.

In the morning he appeared in some respects to be better. The blister had drawn well, and the pain and swelling were in consequence considerably reduced. Neither was he so restless nor irritable, and his mind had ceased to wander.

When at night I again called, he was much as he had been at my preceding visit. The swelling of the arm was perhaps somewhat further abated. But in a few hours afterwards the pain in the side, which at no period had entirely subsided, reverted with violence. It did not, however, raise his pulse.

Convinced by a variety of considerations, that the pain proceeded from inflammation of the heart, I placed a large blister over the region of that organ. Though relieved by this application of the pain, I had the mortification of seeing him the succeeding morning in a situation of increased danger. With a pulse weak, quick, and tremulous, he was wild and distracted. I directed that he should lose six or eight ounces of blood by cups, from the neck and temples, and to have a blister put on behind each ear.

It now appeared to me to be literally of vital importance, to intercept the pus in its course to the circulation. I, therefore, resolved without delay to make use of compression, though it seemed still to be forbidden by the tumefaction of the limb. A bandage and compress were accordingly applied a short distance above the puncture. But nothing material was gained by these applications. The swelling of the arm however declined, and no inconvenience was experienced from the compression. The pus continued to flow profusely from the orifice: this was late in the evening.

* We are indebted to Sydenham for the important fact, that in many instances there is a depressed, in contradistinction to an exhausted system, and which is to be aroused, not by stimulation but by depletion. Brown, who had his direct and indirect debility, differs from him in maintaining that each of these states is to be relieved by stimulants properly graduated.

My visit the next morning found him worse. To all the bad symptoms which previously prevailed, were now added some still more inauspicious. The morbid sensibility of his body had become so exquisite, that he could not bear the slightest touch, or scarcely the weight of the bedclothes without complaining. So sensibly alive was he to every sudden impression, that by opening or shutting the door, or walking across the room, or by a question put to him in a sharp tone of voice, or by a strong glare of light, he was startled and sometimes exceedingly agitated.

At this critical juncture I resorted to the advice of Dr. James, who very obligingly met me in consultation. We agreed to give the camphorated emulsion in large doses, and to have stimulating injections repeatedly administered. But this treatment was equally unavailing, and my patient progressively sunk. Low delirium, cold extremities, tremors of the nerves, and convulsive cough, soon supervened. His pulse became hardly perceptible. The pupils of the eyes were widely dilated, and his countenance assumed an expression uncommonly haggard, phrensiéd and distressed. Desperate as I deemed the case, I did not permit my exertions to be relaxed. By the constant use of the most powerful stimulants, such as camphor and opium, the volatile alkali, the spirits of turpentine, ether, wine, and brandy, I protracted his existence for three days longer, without having, however, during this interval, a single gleam of hope afforded me by any change of his recovery.

The morning after my patient expired, I made an examination, with a view of ascertaining the exact state of things. I exposed the vein from the wrist to the axilla. The external surface of the vessel was in many places inflamed, and especially above the puncture. Between this and the shoulder, matter had escaped from the vein by four distinct sinuses into the neighbouring cellular membrane, forming small abscesses. Two of these sinuses were high up the arm.

I dissected very carefully the parts adjacent to the wound. Directly around it there was an abscess containing, I presume, a large spoonful of pus, mixed with a dark fetid sanies. Sphacelus had already destroyed a portion of the cellular texture.

I next laid open the vein. There was inflammation more or less, from a little below the elbow to the final point of my dissection, without being anywhere very great. By the appearance of the coat of the vein there was, however, the amplest proof of its having existed in the highest grade, and which is abundantly shown by the formation of the sinuses, &c. Below and above the orifice for several inches, gangrene had taken place, bounded by an extensive erysipelatous blush, and the inner surface of the vessel within this space, had begun to slough.

The quantity of pus in the cavity of the vein was small. It ought, indeed, to have been stated, that for two or three days prior to his death, the discharge from the orifice had gradually diminished. No disposition whatever

was evinced anywhere along the canal of the vein, to an adhesion of its sides. My wish to extend the dissection was frustrated. Enough however has been brought to light by this partial exposition, to confirm my original notions as to the nature and causes of this series of extraordinary affections.

In reflecting on the management of the case, I have only to regret having confided too much in compression as a means of promoting adhesion. But surely I shall escape censure, for having adopted a measure which had been approved by the very high and concurrent authority of Hunter, Cooper, Abernethy, &c. &c. I had never before an opportunity of trying compression under such circumstances, or of seeing it employed. My conviction now is that it will rarely succeed. It is confessedly at all times difficult to produce a union in tubular or fistulous ulcers, even where pressure can be used. It is yet more so, to effect a coalescence between the opposite surfaces of blood-vessels, because among other obstacles, the coagulable lymph which is the medium of attachment, must in a great measure be swept away by the circulation as fast as it is deposited. It is besides almost impracticable to make adequate compression on any of the veins of the arm, without interrupting the return of the blood. I confess, however, that these speculative objections to the practice, have less weight with me than the melancholy instance of its failure which I witnessed. In the case of my patient the experiment was fairly made,—for five days and nights successively, I continued the compression, and with the utmost vigilance to the due regulation of it. Distrusting, therefore, the efficacy of this expedient, if ever I should meet with a similar case I would apply a ligature to the vein. The operation, however, will not often be necessary. It can only be required where suppuration has taken place, and there are grounds for the apprehension that the matter is traveling into circulation. Cases of this sort are extremely rare. Few, at least, have been recorded. I have met in my researches with only one at all analogous.* They have hitherto been contemplated by writers rather as a possible than an actual occurrence.†

* This case is related by Mr. John Hunter. In dissecting the arm of a man, he traced a series of adhesions along the course of the vein. But near the axilla, the vein, says he, "had taken on suppuration, beyond which adhesions had not formed, and this had given a free passage for the matter into the circulation, of which the patient most probably died."

† Mr. Abernethy, in his essay on this subject, tells us that he had never seen a case of the vein suppurating from venesection. But he can conceive one, in which it might be proper to divide the vessel to prevent the pus from entering the circulation. With the greatest deference to the authority of this distinguished surgeon, I cannot help giving a preference to the ligature in those cases. It has all the advantages of the operation which he proposes, and is exempt from the hemorrhage and other inconveniences which might attend it. Nor does Mr. Charles Bell, another surgeon of great eminence and experience, appear to have met with such a case. Treating, in his *System of Operative Surgery*, of suppurating veins, he says, "the danger here is conceived to arise from the matter formed within the veins being carried into the circulation," &c. In fine, all the writers whom I have consulted, hold the same sort of language upon this subject.

Injuries to the veins from bleeding, are for the most part attended by only circumscribed inflammation. The suppurative process seldom ensues. Even when it happens, it is generally limited to the vicinity of the wound, through which the pus is either freely evacuated or is lodged in the surrounding cellular texture, and the abscess thus formed may be made by an opening to discharge externally, if, contrary to the ordinary course, it does not do it spontaneously.

CASE II.—It was in 1816, I think, for owing to a casualty, the date cannot be ascertained exactly, that I was requested by Dr. M. Phillips, a young physician of this city, to visit with him an elderly man, a native of Germany, whom he considered very strangely and alarmingly affected. Five days previously he had been bled for sciatica, and according to the popular prejudice of his country, in the foot of the same side in which the pain was seated. Being relieved of the rheumatism by the loss of blood, he the next day resumed his occupation of driving a cart, and of course was much on his feet. Early in the evening he came home with severe pain shooting up the leg, ascribed to a return of rheumatism. This increasing during the night with considerable swelling of the limb, Dr. Phillips was sent for, who adopting a similar view of the nature of the case, treated it in the usual manner by general and local bleeding, purging, the mild diaphoretics, and divers local applications, fomentations, liniments, &c. Great as the pain and swelling were, his pulse had never been full or active,—the temperature even of the part high, or indeed any very unequivocal evidence of fever;—and though the orifice of the vein had not united, there was nothing very peculiar about it. The man becoming, however, restless and delirious, with chills, rigors, and other alarming symptoms, I was consulted. The preceding account I derived from the attending physician, and which was confirmed by the wife of the patient.

In entering the chamber, I was struck with the wild and phrensied expression of countenance, and soon perceived that he was greatly agitated and distressed. Not content scarcely for a moment in any one position, he was alternately up and down, or tossing himself from side to side of the bed, and had evidently a sort of spasmodic jerkings of the limbs. Examining the case, I found his intelligence very imperfect, the pulse feeble and tremulous;—the skin cool, covered with a dewy sweat, especially about the forehead and neck, and there were nervous tremors and difficulty both of articulation and of deglutition. The whole of the leg, and part of the thigh were prodigiously swollen, tense and pale, and around the orifice, which was closed by some thick glutinous matter, was an abscess of nearly an inch in diameter that had not before been observed. By gently pressing it, a sanious fluid flowed out freely, and from stroking the vein above it, amounted altogether to an ounce and a half. The whole of the affected portion of the extremity was covered with a blister except at the orifice, over which a

poultice was placed—and opium, the carbonate of ammonia, and brandy toddy liberally given. In the evening he appeared decidedly worse, having had several tetanoid spasms, and become so furiously deranged, that several men were required to restrain him from acts of violence. He died in the night in a convulsion, of which he had several previously. Every effort was resisted to get an autopsic inspection even of the vein.

CASE III.—Not long after the preceding, I saw with Professor Physick a third case of this affection. It was in a middle-aged lady, corpulent, plethoric, and of sedentary or even sluggish habits. Frightened by a recurrence of an apoplectic admonition, which she had experienced several times before, she determined at once to resort to venesection. No longer, owing to extreme obesity, could blood be obtained from the arm, and on this occasion a vein in the hand was opened. Eleven days after this, and when the incision had completely healed, which indeed it did very promptly, she for the first time complained of sharp darting pains along the course of the vein up the limb. As Dr. Physick, her family physician, was confined at the period by sickness, the bleeder who had performed the operation was sent for, by whom she was told that a nerve or a tendon had been pricked, and that nothing was to be apprehended, as it was an injury temporary in its nature, and readily cured. Directing her to wear the hand in a sling, and to bathe it with an emollient liniment, he retired. But henceforward the pain and swelling of the forearm rapidly increased, and the same person was again consulted, who now advised the loss of blood by leeches, which were several times repeated, followed by poultices. No advantage, however, was gained by these applications, and she becoming a good deal weakened and slightly wandering in her slumbers, Dr. Physick was urgently requested to see her. Discerning her perilous situation, and from the infirmities of his own health, being incapable of paying her the attentions he thought she required, he waited in the house till I came to his assistance. The preceding history of the case was then related by him to me. This was late in the afternoon. Her general condition reminded us much of that of the incipency of low typhoid fever. The eyes were injected, the pupils slightly dilated, with a swimming fatuous expression, and she felt some uneasiness of the head. Deep sighing was frequent, and though she had vomited once or twice she still complained of epigastric oppression and of nausea. There was some distension of the abdomen, probably owing to the loaded state of the bowels, as she was constipated;—the temperature of the surface unequal—the extremities cool and pallid, while the head was preternaturally warm, and the face rather florid. Her pulse was quick, irritated, and corded, of very small volume, and so irregular as to be somewhat intermittent. Depression of spirits was very conspicuous, and she frequently declared that her sensations were such, that she was sure her death was inevitable.

To the elbow, the arm was much swollen and exquisitely tender, with

little pain in it, either lancinating or pulsatory, and pretty nearly of the natural hue, except here and there some livid spots appeared. The orifice was inflamed, and its lips pouting, and slighted retorted. Discovering some sanguinolent matter on the poultice, the vein was delicately pressed, when there oozed out nearly a couple of drachms of purer pus.

We recommended that a stimulating enema should be immediately given to empty the bowels, and if not succeeding, an infusion of senna and salts, administered in repeated doses, till the effect was attained. The arm was also to be covered with a blister, except at the orifice, over which a poultice was to be placed, and then secured in a case. These instructions were faithfully executed, and on my return in a few hours, I learnt that she had been amply purged by the medicine. Yet her condition had deteriorated, by an aggravation of cerebral and nervous disorder, and of jactitation and wretchedness. An opiate was now ordered. The report of the morning was, that she had slept altogether some hours, with however, much muttering delirium. No improvement could we discern in any respect;—on the contrary, as related to the general condition, manifestly worse. The blister not having drawn, it was replaced by a fresh one very carefully prepared, and bound on the limb, by strips of adhesive plaster. Dover's powder and wine whey were given during the day. Towards evening we saw her again, and thought her better. For several hours, she had been comparatively tranquil, and took eagerly some nourishment, sago, with wine, and nutmeg. The nervous system was more steady, the intelligence perfect, the swelling of the arm considerably reduced, of the purulent discharge, scarcely any, and the aspect of the wound greatly improved. Having drawn well, the blister was removed, and dressed by a mixture of the basilicon and mercurial ointments. Her recovery henceforward advanced so rapidly, that I ceased to take notes of the case.

This is one of the many instances, certainly however, not of equal severity, which I could recite of the extraordinary control of vesication over phlebitis. Except it, nothing here was resorted to, of any decided curative power, and the whole of the beneficial effects may be justly ascribed to it. With entire rest of the limb, I have much reason to suppose, that it will arrest a very large proportion of these cases, antecedently to the suppurative stage, and even then where the attack is mild. Endocarditis, however, taking place, or such a quantity of pus having entered the circulation as to induce a state of poisoning, with all those complications of typhoid affections consequent on it, then, I believe, that it, in common with every thing else hitherto devised, will prove nugatory. Fortunately, however, the most violent forms of the disease are not common. The inflammation in traumatic phlebitis is usually local, and when more extensive and suppurative, the quantity of pus secreted is small, or if copious, its introduction into the circulation is very often prevented by some of those provisions wisely instituted by nature, to which I have previously alluded.

ART. II.—*Congestive Fever. Its Character, Symptoms and Treatment, as met with in Central Indiana.* By CHARLES PARRY, M. D., of Indianapolis, Indiana.

THIS disease prevails at the close of summer and through autumn, with other autumnal diseases; and, in the same situations, though generally while the usual fevers occupy the table-lands, the congestive cases are found along the low grounds skirting the rivers.

Liability. This disease is confined chiefly to adults of both sexes; children are rarely affected. I never saw a case in an individual under twenty years of age. Old settlers are as liable as those recently arrived; this is not the case as to the bilious fevers.

Once having had an attack, does not exclude the possibility of having another the same season, although a second attack is rare. I had one patient who had two attacks the same season; and I had one patient who had an attack in three successive summers.

The general duration of this disease, is from six to nine days in recovering, so as to walk about; in fatal cases, from two to three days; death usually occurring in the second or third paroxysm, hardly ever in the first. The plethoric, young and robust, are most apt to die; the age, in a majority of fatal cases, is from twenty-five to thirty-five.

The cause of death, appears to be a cessation of the circulation; in the more malignant cases the patients are sometimes pulseless, for from four to six hours before death takes place, and yet be able to sit up, or walk about in this condition.

Proportional mortality. Without treatment, or with the usual treatment for bilious fevers, (which is little better than none in this disease), probably, three-fourths of the cases terminate fatally. But with a special treatment not more than one in eight.

The attack may come on at any period of the twenty-four hours; frequently it is during the night.

Symptoms. In the majority of cases, the symptoms of the first paroxysm are such as occur in an ordinary intermittent attack. One main peculiarity is, a physiognomical expression of intense apprehension, or terror, without experiencing it. Perhaps the face is paler, or more livid than in common cases. There is also a general coldness of the surface of the body and extremities, felt by the physician, but not by the patient, as there is a lessened endermic sensibility.

The several stages are very imperfectly marked in the first paroxysm of this disease; the fever is usually light, though the cold stage may have lasted an hour. There is not usually a distinct sweating stage in the first paroxysm,

and the patient in the subsequent interval complains of malaise only, or some debility; being in other respects pretty well.

The first paroxysm attracts so little attention, that after it is over, the patient meeting a physician or friend, says, that he feels as if he were about to be sick; not that he has been sick.

There is seldom much, if any, gastric disturbance in the first paroxysm; and except as to its indistinctness, its slightness, and the malaise left behind, the paroxysm is like that of a very light intermittent.

The interval between the paroxysm, is twenty-four or forty-eight hours; I do not remember which is the most common interval, or, if either prevails more in any particular year.

The second paroxysm. This is always severe, not so much in the violence of the rigors, as in the extreme coldness, and in the approaching death-like hue of the face and extremities: this condition is very prolonged, even until death takes place; or, after three or four hours, if there is a favourable termination, until reaction occurs.

In the chill. The gastro-intestinal irritation is very violent, the vomiting and purging almost incessant; the discharges are often mixed with blood, but not with bile;—as the hepatic secretions are seldom altered either in quantity or quality. The discharges do not resemble those of cholera (rice water), they have more the appearance of water in which a large portion of recently killed beef has been washed. Sometimes, however, the proportion of blood is much greater, at times amounting almost to clear blood, and from three to five, or even twelve ounces at a discharge, and frequently as often as ten, twenty, or forty minutes apart; the discharges have no particular or very little odour; there are little or no griping pains, though frequent efforts even without any discharge. The vomiting and purging are so frequent, that I consider thirty minutes quite a long interval.

Abdominal pain and tenderness on pressure, slight; the patient complains of a sense of weight and burning heat in the stomach. No abdominal intumescence or tympanitis, except that, in a favourable termination, there are in a few cases large evacuations of gas, as if it had been secreted after the cessation of the liquid discharge.

The thirst is most intense. The constant cry is for cold drinks, cold ice water, and a very common exclamation is, “Oh that I could lay in the river,” “If I could only have a stream of cold water running through me;” these symptoms too in the cold stage.

The Respiration is often very peculiar. It consists of a deep drawn double inspiration (or double sigh) with one expiration; this double breathing is seen in perhaps more than two-thirds of the cases; it is a fatal symptom. It is seen very early in the second paroxysm, generally at the beginning, and continues to its close, either in the agony of death, or to the febrile reaction; the respiration is seldom hurried; the interval

(the time between the end of the expiration and the beginning of the inspiration) is long, especially in fatal cases.

No cough, no mucous râle, or sonorous respiration, except at the end of the scene, when we sometimes have the "death rattle."

Circulation. The pulse, even from the beginning of the second paroxysm, is very small, thready, very frequent, 120 to 150 in a minute, hard, or wiry, sometimes irregular, intermitting, even to the omission of two or three beats.

The capillary circulation appears stagnated, as indicated by the lividness and coldness of the surface of the body, the paleness remaining after pressure, a cold, clammy, sticky sweat, sometimes extending from head to foot, but frequently, only over the face and neck; the skin on the hands is shrivelled, wilted, and they look as if they had been soaked in ley, like a washer-woman's hands, and yet the patient actually complains of the "burning heat," begs for cold drinks, and often wants to be fanned.

Restlessness is very great, the patient constantly tossing about from one side of the bed to the other; throwing his arms and legs around; incessantly endeavouring to get out of bed, and he is able to do so, even to walk across the room if permitted, until within an hour or so of dissolution. I have positively seen persons get out of bed, walk across the room and stand in the doorway, hours after it was impossible to detect any pulse at the wrist, though the carotids could be felt plainly. Such is the *intense* desire of patients to get cold air, that they frequently express themselves determined to have it, at all hazards; and, indeed, it frequently happens, even with nearly all the symptoms above described being present, the patient does not think there is much the matter with him, and wonders why the attendants will keep him in bed, (and it takes two or three to do it,) why they will not let him go out. This ignorance of their dangerous situation continues up to the occurrence of the stupor, or soporose condition, which usually comes on an hour or more before death.

There are frequently muscular cramps in the calves of the legs and feet, though seldom abdominal spasms.

State of mind and senses. No tinnitus, blindness, or perverted vision; the mind is usually undisturbed until the "agony." In some cases, however, there is severe headache, and *delirium*; and in others somnolency, or extreme coma, even from the access of the second paroxysm. In such cases, the determination of blood is mainly to the head, or it is a disturbance of innervation.

Urine. Its condition not observed, the frequent purging in every case rendering it difficult to observe the state of this excretion.

The usual length of the fatal paroxysm, is from three to six hours, though it is longer in some cases. The moribund symptoms increasing, the pulse becoming more and more frequent, lessened in force, and growing more irregu-

lar, sometimes scarcely felt, or conveying a fluttering sensation beneath the finger so fine as scarce to be perceptible. Prolonged inspiration, and extended intervals. Increased coldness, clamminess and wilting of the skin on the hands and arms; a sticky unctuous sweat from head to foot, collecting in large drops of the size of a half dime, if not wiped away. Hypocratic sharpness, and anxiety of look, without corresponding sensation, (for even here the patients may speak as if there was but little the matter with them;) seldom, if any subsultus, or hiccup, or convulsions; and death takes place easily, as if without cause.

Treatment. The great principle of curation, is to conduct the paroxysm to a close, and then to prevent a recurrence of it.

As the physician is called to the sick, in nearly every case, during the cold stage, the indications for him to follow are,

1st, To arrest the discharges of the first passages.

2nd, To determine to the surface; produce reaction.

3rd, To relieve local congestion.

For the first and second, I use extensive sinapisms of the strongest kind, over the whole abdomen and lower extremities, also hot bricks to the feet; coteremporaneous with this, to allay the vomiting, and check the discharges from the bowels, I give every half hour a pill composed of $\frac{1}{2}$ gr. sulph. morph.; 1 gr. camph.; 2 grs. of mass. hydrarg.; with sometimes $\frac{1}{2}$ gr. capsicum; or if the evacuation is of a very sanguineous character, I give alternately with the above, a powder composed of 3 grs. acet. plumbi; $\frac{1}{2}$ gr. of sulph. morph., and 2 grs. calomel. My object in giving mercurials is, not so much for the immediate effect during the existing paroxysm, as for its auxiliary action in restoring the various secretions, after a favourable termination of the paroxysm; for I really believe the patient would invariably die, if we were to rely for a cure on any specific action of mercury on the system; we cannot wait for this, no matter how energetically exhibited. We must secure our patient from danger by other means, as I shall enumerate.

To assist in carrying out the 2d indication, I also use the most stimulating frictions to the hands, arms, and legs, such as cayenne pepper stewed in brandy, or if there is much of the clammy sweat, I prefer dry capsicum and very coarse flannel.

3rd Indication. To relieve the local congestion. This is best done by cupping. If the determination has been to the head, apply cups around the forehead, temples, nape of the neck; also apply cloths wet with the coldest water, or a bladder of pounded ice to the top of the head.

If the determination has been to the lungs, of course the cups will be applied over the chest, and to be of service, they should be very extensively applied. But if the congestion appears to be in the abdomen, I prefer the mustard plaster to the cups, as I think it produces a better revulsive action.

Internal stimulants, either do harm or no good; the patients usually

object to them, as they increase the sense of heat and distress. In the few cases in which they were used, the end was fatal; I do not attribute that to their exhibition, for those were desperate cases; but I saw no benefit from their use; but instead of stimulants, the patient almost screams for ice, or ice water, such is the intense desire for cold drink, and the patient appears to be greatly refreshed by the indulgence.

If we are so fortunate by the foregoing means, as to establish general reaction, the patient has a fair chance for his life. In fact, I consider with the proper remedies the recovery certain.

After watching the patient with much anxiety, for two or three hours, with the symptoms above described, with more or less violence, the pulse is found to gradually increase in strength and fulness; beat after beat under the finger; the warmth or heat of surface gradually extending, inch by inch from the body along the limbs, until it reaches the extremities; the vomiting and purging ceases, the skin becomes dry, a general heat is diffused over the whole body; or, in fact, *fever* established; but in nowise corresponding in violence to the malignant character of the cold stage; and in fact, it is seldom necessary to direct any particular treatment for the mere fever itself; nor do I let the fever interfere with my commencing immediately with the anti-paroxysmal remedies if it is necessary to economize time. Consequently, I consider this paroxysm as through, so far as its treatment is concerned.

The next great object is, to prevent its recurrence, and whatever will prevent the concentration of the blood to the particular internal organ, arrests the disease; and this must now be done at all hazards, or the patient will die. Although I like all the collateral assistance I can receive from other articles, yet the "Sulphate of Quinine" is the remedy! It is the master article of the *Materia Medica*. With it, and reaction once established, I believe nearly every case can be cured; but without it, scarcely any recover.

To lessen the susceptibility to purging, opium should be used with it. To abate nausea, if any is present, camphor ought to be added. And to restore the mucous secretions, which are arrested, a mercurial must be also given, of which, the best is blue mass.

Therefore, give modified as above, a pill composed of 3 grs. of sulph. quin.; $1\frac{1}{2}$ gr. of blue mass.; $\frac{1}{8}$ gr. sulph. morph.; 1 gr. pulv. camph., repeated according to the expected length of the interval, to the next paroxysm; if the disease is of a quotidian character, the above pill must be given every hour, or hour and half apart; but if of the tertian order, it may be given from two to three hours apart; the object being, to give during the interval from 30 to 60 grains of quinine, according to the force of the patient's general system previously. The paroxysm being prevented, continue for a time, in lessened doses, the above prescription, and treat other symptoms, (*secundum artem*). It not unfrequently happens, that in the beginning of winter or of spring, a person who has had in the summer or fall a congestive fever, is attacked with common ague. This is easily cured, never becomes congestive.

I saw but one case of repetition; after going about three or four weeks, this person recovered.

I remember twelve very severe cases, of which only three recovered; all dying in the paroxysm to which I was first called. I do not recollect one case in which the patient died, where I had a chance of treating the interval. No example of a paroxysm of a dangerous character, and but few of any character, after reaching complete reaction, and the already described treatment being used.

PECULIAR CASES. *Mrs. W.* had two attacks in one season, in the first attack, she was for forty hours in a cold, clammy sweat, skin not shrivelled; her pulse never became thready; no bloody discharges; excessive vomiting.

In the second, copious intestinal hemorrhage; yielded to treatment; recovered.

Mr. Walker, ætat. 23. First paroxysm very slight; out on his farm next day; in forty-eight hours the second paroxysm; in this there was the cold skin, violent delirium, pulse not depressed; in forty-eight hours again, another paroxysm, cold surface, watery diarrhœa, excessive vomiting, sunken pulse, great tympanitis; and finally, enormous discharges of flatus; ended favourably by reaction, and a recurrence was prevented by quinine.

ART. III.—*Practical Observations on Continued Fever, as it prevailed in Middle Southern Virginia during the thirteen years from 1816 to 1829, inclusive.* By JOHN P. METTAUER, M. D., of Virginia.

CONTINUED Fever is the occasional product of nearly every climate, but more frequently occurs in cold and temperate regions; it is unquestionably of malarial origin, and appears both as endemic, and endemico-epidemic.

Three varieties of this fever have prevailed at different times, in the region of country, from which the facts and observations embodied in this paper are derived; that is, the Synocha, the Typhoid, and the Typhus.

Synocha, which was only the more open and well developed form of the disease, prevailed during dry and warm, and warm and damp seasons, and always as an endemico-epidemic of considerable extent. From 1816 to 1821, both years included, and especially during the warm months of those years, this was the predominant form under which continued fever appeared; and it was uniformly distinguished by the open characters of a well-marked inflammatory fever in a large majority of cases, throughout its more acute stage. During these years, too, all classes and conditions of society were equally affected by the disease, and, with few exceptions, it did not part with its peculiar open characters until the setting in of cold weather. Many cases

of ordinary continued fever, or as it is often termed typhoid fever, and typhus, also occurred during this period, though their number was small until after winter set in. From 1822 to 1829, the typhoid and typhus varieties were the predominant fevers, but there were also many cases of the synocha type to be met with, both during the warm and cold seasons of this period; and these fevers were almost exclusively confined to certain districts and neighbourhoods, favourable to the generation of a peculiar miasm, such as is believed to be formed during the slow decomposition of ligneous substances.

Typhus did not generally make its appearance until many cases of the typhoid affection had previously occurred in a family; but when it did take place it was invariably distinguished by early cerebral disturbance, especially depression of the nervous energies.

The face of the country and climate of the region in which this fever prevailed, presented nothing calculated to lead to the belief that it was necessarily obnoxious to the disease. The lands are more or less broken and undulating; they abound in numerous small water-courses, and creek-flats which readily overflow; and many of the small streams dry up during protracted droughts.

The climate is not more variable than is usual in middle Virginia. With the exception of two of the years embraced in this history, there was nothing very remarkable or peculiar in the seasons favouring the production of continued fever. 1816 was distinguished by an unusually dry and cool summer. From May until October there was not rain enough to wet the earth an inch, consequently nearly all of the water-courses large and small dried up. There were many instances of wells and springs failing entirely during this year, which had never been known to be materially affected by droughts before. And the summer of this extraordinary season was so cool as to be attended with frost every month.

This was a year of fever, and the disease assumed the synocha form, distinguished by well developed and highly inflammatory characters; and it prevailed most extensively, especially during the warm months. Towards the close of September the cases of typhoid fever, which until then had not been numerous, multiplied rapidly, and soon became decidedly the predominant form, and maintained the ascendancy during the succeeding winter. In 1827 another exceedingly dry summer occurred: this year was also distinguished by the almost universal prevalence of the synocha form of continued fever, though, there were occasional cases of the typhoid and typhus varieties, likewise to be met with. The summer of this year was very nearly as dry as that of 1816, but it was exceedingly warm. As autumn approached typhoid cases increased in number, and soon became the predominant fevers. But after winter set in, which was damp and remarkably mild, genuine typhus rapidly increased, and continued to do so the remainder of the season, and throughout the next year.

The years not particularized in the foregoing sketch, were not distin-

guished by any thing remarkable in a meteorological view, but they were years of fever; and the disease appeared chiefly under the typhoid and typhus forms, nearly in an equal proportion, though cases of synocha were often met with likewise. 1816 and 1827 were decidedly the sickly years of the period embraced in this paper; and, as already remarked, the synocha was the predominant form under which the disease appeared. In many instances the fevers of these years could be satisfactorily traced to malarial sources, especially at the commencement of the sickly season. But a vast number afterwards were as clearly referable to *idiomiasma*, or something like contagion, particularly as cases of fever multiplied in families, and as cold weather approached, or as the rigors of winter increased. Numerous cases occurred after the cold weather of the winter season set in, with individuals residing in uninfected neighbourhoods, who had assisted in nursing sick relatives; and such persons often communicated the disease to their families and neighbours who had assisted in nursing them. The propagation of every form of this fever by something like contagion was established by indubitable evidence in many instances; but it was not very communicable until it had continued in a family some time, more especially, the synocha and typhoid varieties. The difference in the communicability of these forms and typhus was, that many cases of the former, or one of long continuance became necessary to their propagation by the contagious agency; while a solitary example of the latter in many instances was sufficient to communicate it. In a few instances we were induced to believe that fomites propagated these fevers, as washerwomen residing in neighbourhoods remote from the seats of the disease, who had received and washed the clothes of the sick, and who were exposed in no other manner, had regular attacks of them.

Night exposure in sick rooms was the most favourable for the propagation of continued fever from the sick to the well. Comparatively few persons contracted either form, who only remained a short time during the day in sick rooms.

High and elevated situations in the vicinity of low grounds and water-courses, were the earliest seats of these fevers, unless when they occurred in or near log cabins in a state of decay; while table and flat lands immediately bordering on water-courses enjoyed nearly entire exemption from them, until the disease was conveyed to such situations by infected persons who had contracted it elsewhere.

Most of the cases seen and treated by us could be very satisfactorily traced to miasmatic causes; and during the period embraced in this brief history, the disease prevailed as an epidemic more or less extensive in its range.

The miasmatic sources from which these fevers originated were somewhat diversified. During the dry summers of 1816 and 1827, there was very little reason to doubt that the action of the sun's rays upon the beds of the water-courses, or their muddy margins, which had been exposed by the dry-

ing up of the waters, originated most of the fevers of those years. There were other sources of miasmata during those years, which doubtless contributed in some degree, likewise, to the production of fevers, especially such as were created by cutting down and clearing up wet flat lands; as well as by draining marsh-like bottoms. The excessive and alarmingly dry summer of 1816, induced the farmers of this section of Virginia, to rely almost exclusively on their flat lands, especially for the culture of Indian corn (maize), and tobacco (nicotiana), after that memorable year. After this year a general effort was made by our agriculturists to bring their low lands under tillage, which they accomplished by cutting down their timber, and by every species of ditching and draining. This system very soon exposed numerous moist surfaces to the action of the atmosphere and the solar heat, which had been for a long series of years accumulating vegetable deposits, but too moist to allow those chemical changes to take place in them necessary for the formation of miasmata until now. Many small water-courses, too, were straightened by ditching them, which left numerous stagnant ponds of water along the old beds of the streams, as well as exposed the muddy bottoms to the action of the sun. Many of the ditches formed during this period, exposed woody substances to the action of the sun and air, that must have been buried under ground for a vast number of years. During this period, too, extensive tracts of land were cut down, and the timber suffered to remain on them, until the leaves and small branches were nearly or completely rotten. The summers during this period, doubtless, contributed by their warmth, and the dry weather so apt to occur at such seasons, to augment the tendencies and activity of these several miasmatic causes, in rendering fevers more prevalent. From 1816 to 1829 inclusive, there was abundant reason for believing that the agricultural changes which have been hinted at, tended greatly if not chiefly to the production of fever, with the exception of 1816 and 1827. 1829, the last year embraced in our history, presented fewer cases than either of the preceding: indeed the epidemic of this year terminated in August, and abruptly; and very probably a period was put to it by the frequent and excessive rains from this time till frost. Since 1829 there has been no year of the general prevalence of fever in this region, and we think, chiefly, because nearly all the principal and most prolific sources of miasmata have been broken up, by the modes of cultivating flat lands generally adopted subsequent to that time. It is true, cases of fever have occurred since 1829 and down to the present period; but they were confined to particular families, or filthy small villages, and proceeded from malarial causes entirely local and limited in their operation. In some instances the disease was evidently communicated from such situations by contagion to other neighbourhoods from which, in turn, it was again propagated to others. After many years careful investigation of the origin of our continued fevers, we are fully convinced that they were, in a large majority of cases, produced by miasmata, especially in the commencement, when they appeared as an

epidemic. But we are equally well satisfied that they were in many instances induced by idio-malaria or contagion—and it is in this manner that these fevers extend through families during the cold seasons.

No age was exempted from continued fever; infants at the breast, and individuals upwards of sixty years old, with every intermediate age, being affected. Being between the ages of eighteen and thirty years was that most obnoxious to this fever. The black population were most subject to typhus, and the depressing forms of the typhoid variety.

The disease was frequently superinduced by catarrhal affections, especially during variable seasons. Measles; whooping-cough; chicken-pox; worms; conception; parturition; excesses in eating and drinking; surgical accidents and operations; terror; passion; grief; despondency; intense study; long fasting; colic; fatigue; and some others, at different times, also, seemed to excite the disease, but as accidental or occasional causes.

The *anatomical characters* which were displayed during our post-mortem examinations* were lesions of the glands of Peyer; of the mesentery; spleen; mucous membrane of the small and large intestines; of the peritoneal coat of the small intestines and stomach; of the meninges of the brain, and especially of the arachnoid; effusion of serum, or blood and serum into the ventricles of the brain; congestion or softening of the lungs, and gangrene of the bladder. A dissolved state of the blood was also occasionally met with as a post obit appearance, especially in fatal cases of typhus: in such cases the lungs were more or less disorganized; and in every instance the membranes of the brain were greatly congested.

We were early enabled to distinguish three stages in the progress of this fever, when opportunities were afforded us of observing it from its commencement; that is, 1st. The forming stage, before the febrile category was established. This stage was distinguished by languor; lassitude; a general feeling of weakness; irregular, unsteady and variable pulse; sensations of coolness, chilliness, or of transitory increase of warmth termed “flashings of heat” in popular language; loss of appetite, or morbid increase of it; vertigo; often uneasiness of the head and eyes, or even pain; sluggishness of the mind as well as body; often drowsiness, somnolency, or absolute sleeplessness; reluctance for every kind of exertion; occasionally extreme depression, or vivacity; disturbance of most of the secretory exercises, and some others.

2d. The active or febrile stage. This stage was characterized by a regular series of morbid associations, progressively and gradually formed generally, though occasionally occurring abruptly as in synocha. It was attended with, or ushered in by a chill or chilliness at a particular period of the day, succeeded by a hot stage more or less perfectly formed, and steady in its

* We treated more than four hundred cases from 1816 to 1829, and lost only twenty patients. Many of the cases were of the most unpromising description, perhaps a fifth.

duration for a limited time. The hot stage, which varied in different cases in the degrees of its intensity, was uniformly distinguished by an accelerated, and a more or less full and strong pulse; a hot and dry skin; the tongue coated, and white or yellow, and dry or moist: there was also more or less thirst, headache, pain of the neck, back, and extremities, the face was flushed; the temples throbbed; and the bowels were constipated, or preternaturally loose: there was loss of appetite; diminution of the urinary secretion, and now and then increased desire to evacuate it: the senses of sight and hearing were occasionally exceedingly sensitive: not unfrequently there was delirium, restlessness, or quietude bordering on a state of the most perfect resignation: occasionally almost universal soreness was experienced throughout the skin, though this sensation was more generally an attendant upon the preceding stage: nausea or vomiting; a peculiar cough; accelerated breathing, and some others, also generally occurred during this stage as attendant phenomena.

3rd. The subacute stage. This stage was distinguished by most of the phenomena of the acute stage, but their general character was more or less subacute, with a decided tendency to depression of the energies, and vital operations of the economy: it presented a very great variety of phenomena connected with structural or organic change, as we supposed in greater or less degrees.

The forming stage continued from a few hours to several, nay, in some instances many days, and the phenomena by which it was distinguished, evidently indicated a versatile and unfixed irritation with which it was attended, implicating chiefly the functional operations. There was nothing like a febrile state manifested during this stage; nor could we distinguish any thing of a paroxysmal aggravation of the attendant phenomena at particular periods of the day, until it verged closely on the febrile stage.

The febrile stage was generally ushered in with a chill, or chilliness, or coldness, which was soon succeeded by the hot or reacting state, and the usual phenomena so constantly attendant upon this stage, constituting the febrile reaction. In many cases the febrile commotion of this stage acquired great intensity, and was attended with a highly excited state of the circulation; the pulse frequently ranging from 140 to 150, or even to 160 beats in a minute, and full, strong, and in many instances bounding. This state was invariably followed by an abatement of the more acute symptoms after a few hours; and something like a remission came on which occasionally was attended with sweating, and these phenomena, after the first paroxysm, occurred twice in the 24 hours, and continued to recur daily, until the febrile course was arrested by crisis. This stage seemed to be connected with a fixed or pathological irritation from its commencement, though in the early period of it, the irritation was somewhat unsteady, seeming to partake of fluxionary or congestive characters: but irritation soon became steady, and displayed the disease in its most perfectly formed condition.

After some days continuance, especially if it lasted more than a week, it gradually parted with its more open characters, and imperceptibly glided into, or was merged with the subacute stage, which, as already stated, was to be distinguished by the signs of exhaustion and depression of the constitutional energies in greater or less degrees.

In the acute as well as the subacute stage, the exacerbations commenced from 7 to 9 in the morning, were at their acme from 11 A. M. to 2 P. M.; and were in remission from 4 to 7 P. M.: this we termed the diurnal paroxysm. The nocturnal exacerbation commenced at or a little after 7 P. M., was at its acme from 12 to 3 P. M., and was in remission from 6 to 7 or 8 A. M. The nocturnal paroxysm was generally the most violent throughout the disease, though frequently much the shortest; and if delirium occurred at all it usually made its first appearance during this paroxysm: this symptom, too, was always more violent at this period when both paroxysms were attended with it. We regarded continued fever a neuro-inflammatory affection, differing from ordinary inflammatory fevers, by reason of its quotidian reduplications, the less intense, and depressing nature of the febrile phlogosis, and the fluxionary and paroxysmal character of it, as well as all other miasmatic diseases. Although inflammation often occurred in this fever, we have never regarded it to be a necessary constituent of the disease, but rather an accidental associate; hence it always comes on more or less remotely from the commencement of the attack. In the early stages of this fever, as it has appeared here, and been particularly observed by us, its pathology evidently indicated chiefly neuro-functional disturbances; and these characters of the irritation were rarely ever lost entirely even after phlogosis had set in. Always the product of malaria, and acting, in all probability, primarily upon the nerves connected with the secretory operations of the natural surfaces—more especially the mucous; and consisting of an unsteady and revulsive irritation, located chiefly in vital structures insusceptible of the highest degrees of inflammation, unless induced by irritants of a very different character, and in organs highly important to the well-being of the economy, it was to have been inferred that the febrile phlogosis would not acquire a very exalted intensity. In this view of the inflammatory character of the phlogosis of continued fever we are not singular, as several very distinguished pathologists have entertained and expressed opinions not very unlike it. Without pretending to explain the rationale of it, we will only now state the fact, that the fevers treated by us never exhibited the true sthenic, or hyperæmic inflammation, not even in the most acute cases.

Of the treatment: and first of the Forming Stage.—Before entering upon the treatment, we will briefly recapitulate the symptoms of this stage: they are languor, lassitude; a general feeling of weakness; irregular, unsteady and variable pulse, occasionally accelerated, or preternaturally slow; sensations of coolness or coldness, often succeeded by flashes of heat, and felt more particularly along the spine and scapulæ; loss of appetite, or

morbid increase of it; vertigo; often uneasiness of the head and eyes, or pain; sluggishness of the body as well as of the mind; often difficulty in computing, or in measuring time; drowsiness, somnolency, or absolute sleeplessness; reluctance for every kind of motion or exertion; occasionally extreme depression, or hilarity; costiveness; disturbance of most of the secretory exercises, and some others. In numerous instances we succeeded in arresting the course of the disease at this early period by the decisive employment and energetic use of emetics. We commenced with them as early as possible, and repeated them once in twelve hours until there was a complete subsidence, or an abatement of the symptoms; or until they were contraindicated by the signs indicative of the near approach of the febrile stage. When practicable we invariably commenced with them early in the morning, or late of an evening. In some instances the emetic was repeated morning and evening four or five times, and with the effect of breaking up the disease entirely. Sweating generally followed emesis when it arrested the disease; and our constant aim was to co-operate with that tendency by the employment of suitable auxiliary measures. Full and free vomiting was required to produce the relaxation necessary for diaphoresis, and to enable us to effect it large dilution of the stomach with bland tepid fluids was invariably directed. A coated tongue and complete anorexia indicated in many instances the necessity for the use of emetics. Occasionally the tongue was clean, while there was loss of appetite at the same time, with more or less impairment of the secretions generally. In such cases we did not hesitate to employ emetics, but were careful not to use antimonials, lest they might superinduce too much irritation in the gastro-intestinal mucous membrane, and thus hasten a condition to which this important structure is so prone in this fever. Ipecacuanha was uniformly employed in such examples of the disease; while we used either that article or the tartar emetic in the cases attended with a coated tongue. During the operation of the emetic, and for some hours after, measures which promote sweating were carefully used. When the skin was cool, and its capillaries torpid and bloodless, we invariably employed some form of rubefaction during the action of the emetic or very soon after, with the design of co-operating with the revulsive effects of the emetic. Artificial heat, friction, sinapisms and such like means were generally directed to be used to the surface for that purpose. After the vomitive commotion was over we always allowed patients to indulge in repose, to which there is generally so strong an inclination after the free operation of an emetic.

When the bowels were constipated, or when the coating of the tongue was heavy, we generally united a few grains of calomel with the emetic, or, it was administered after the vomitive commotion had subsided. If the emetic was given in the morning without the mercurial, and that agent seemed necessary, we directed it to be taken at bedtime, in combination with one grain of ipecacuanha, made into a pill. Frequently, however, mercurials

were not employed with, or after the emetic; and in such cases, we either used a pill containing one grain of ipecacuanha, three of aloes, and six of rhubarb; or, a mild purgative enema was administered.

In very many of the cases of fever treated by us, an early disposition to gastro-enteritis was manifested; and in all such cases, calomel could not be so safely employed. This fact was derived from the treatment of several very intractable cases which early came under our care, rendered so by the officious and too free use of calomel. In two of the cases, the mucous lining of the stomach and intestines was completely denuded of its epithelium, and the surface thus exposed, as well as the gums and nose bled till death closed the scene.

Diaphoretics of mild qualities were often employed in this stage likewise, and with distinguished benefit. In many instances we found the spirit. minder. and dulcified spirit of nitre united, and taken at bedtime, to be repeated once an hour, for two or three times during the night, a most valuable diaphoretic. Wine whey, and a few drops of aq. ammon. we also frequently used with advantage. The Dover's powder was likewise occasionally employed beneficially, and when patients could not sleep, it was especially useful. The teas of hops, sage, and even of corncobs were found eminently serviceable as diaphoretics in mild cases. Taken after bathing the feet in warm water, at bedtime, they rarely ever failed to induce sweating.

Bleeding in a few cases was required in this stage, both as a preparatory measure to the administration of emetics, and to give efficiency to the diaphoretic measures. When plethora obtained, or strongly marked cephalic aptitudes existed, and the patient was young and athletic, we invariably bled before giving an emetic. Rest, quietude, demulcent mild drinks; and a simple non-stimulating diet, consisting chiefly of liquids, were generally directed by us throughout this stage. We uniformly required patients to remain in bed as long as the disposition to sweat continued, which occasionally was the case for several days after every symptom of the disease had disappeared.

The convalescence required from one to two weeks, and during this period, we deemed it all important to keep the bowels soluble by the use of proper remedies.

The plan which has been premised, did not always arrest the course of the disease in this stage, though in many instances, it seemed at once to put a stop to it, and to produce speedy and complete recoveries. When emetics failed to arrest the disease in its forming stage, they rarely ever seemed to aggravate the fever in its succeeding stages, but on the contrary, if judiciously employed impressed upon it milder characters, and rendered the after treatment more easy, and the result correspondingly fortunate.

The Acute or Fibrile Stage. As in the forming stage, we will briefly recapitulate the symptoms of the acute, before considering its treatment:—they are an initiatory chill, or chilliness at a particular period of the day, suc-

ceeded by a hot stage, more or less perfectly formed, and steady in its duration for a limited time. The hot stage, which, as already stated, varied in different cases in the degrees of its intensity, was uniformly distinguished by an accelerated, and more or less full and strong pulse; a hot and dry skin; headache, frequently pain of the nape of the neck, back and limbs; thirst; tongue coated, yellow or white, and dry or moist; flushed face; temples throbbing; occasionally, sick stomach, and vomiting; constipation, or looseness of the bowels; loss of appetite; not unfrequently delirium; the senses of sight and hearing occasionally exceedingly sensitive; diminution of the urinary secretion, and now and then increased desire to void it; restlessness; a peculiar cough; accelerated breathing; sighing; drowsiness, or watchfulness, and some others; and these constituted the symptomatology of the early or more acute period of the febrile stage.

In treating this stage, every paroxysm afforded us an opportunity of combating the initiatory cold or cool state; and the ordinary means of restoring and equalizing the temperature, such as the application of artificial heat to the surface of the body, sinapisms to the extremities, friction, and mild internal stimuli were the measures generally resorted to. The cool state, however, was not always well marked, and generally it soon terminated in the reacting or febrile state of the paroxysm. The acute stage in its early beginning required in a large majority of cases blood-letting, more or less freely used. In the synocha variety of the disease especially, it was impossible to control and reduce the pulse by any other means. Even in the typhoid form we found in nearly every case that bleeding was required to reduce the febrile excitement. With young and vigorous subjects, we always used this remedy decisively, more especially in synocha, as it was of the first importance to subdue the pulse at once. In some cases we bled two and three times during the earliest paroxysms, and largely at each time, before the pulse yielded. The blood was generally drawn from a free orifice, and when practicable the operation was always performed while the patient was sitting erect in a chair, or in bed, which enabled us to produce in many instances a very decided impression upon the pulse, with the loss of comparatively a small quantity of blood. When cephalic congestion was feared, we felt emboldened in the use of the lancet, and occasionally opened one or both of the external jugulars, or the temporal artery after free bleeding from the arm. With constitutions naturally feeble, or with persons advanced in years, one decisive bleeding well timed during the rapid increase of the paroxysm, often controlled the pulse. We never ventured to bleed such persons repeatedly, and freely at each time, even if the lancet was indicated, as collapse of dangerous character had resulted in several similar cases, from the officious and indiscreet bleedings of nurses. In all such cases the lancet was used with caution, taking care to moderate the pulse rather than reduce its force decidedly by the bleeding. We were much surprised to find with such constitutions, occasionally, that though the febrile action was of very

intense character, one free bleeding would produce decided swooning; but after a few moments the reaction would become as active and violent as before the bleeding. Our later observations have led us to regard the febrile commotion in such cases, as the result of congestive irritation, or congestions with very little inflammation; and we suppose the sudden detraction of blood disperses the congestions so abruptly as to suspend for a few moments, or during the continuance of the swoon, the febrile irritation of the congested organs, without correcting or removing the febrile susceptibility. During the epidemic synocha of 1827, a large proportion of the cases demanded very free and repeated bleedings; but the remedy was frequently improperly used, producing in some instances sudden transformations of the fever into adynamic, and occasionally into the ataxic types. Of the latter description we met with a most perplexing variety, distinguished by an exceedingly active and rapid pulse, and possessing at the same time an expansiveness and volume assimilating it to a synocha pulse, or perhaps more properly to the hæmorrhagic pulse. This state was evidently produced by the improper use of bleeding, especially in the abstraction of blood beyond what was required to subdue the febrile phlogosis. In every case the further use of the lancet seemed indicated by the tumult and activity of the circulation, but bleeding only served to continue the morbid state. We witnessed many cases of the kind in consultation, but no case occurred in our own practice. Marshall Hall has well described this affection. We treated such cases with a combination of ipecacuanha, acet. plumb., aloes and gum camphor. A pill containing one grain of ipecacuanha, one of acet. plumb., half a grain of gum. camph. and half a grain of aloes, administered once in three or four hours, generally quieted the circulation, and often produced crisis by diaphoresis.

Our object in bleeding in this stage was not so much to cut short, or to cure the fever, as to guard the organs implicated, or about to become so, against inflammation and its consequences; and to place the system as speedily as possible in a condition favourable for resuming the secretory exercises, influenced by proper internal remedial measures; and it was never found safe to dispense with it, or to regard the febrile action as decidedly impressed and corrected by it, until the pulse was bled down and softened. Our rule was the pulse, and we have never regretted that it was early adopted as our "*regula regularis*" in treating this fever.

Refrigerants were generally employed in connection, or in alternation with the lancet, especially when the exacerbation was attended with a hot skin and tormenting thirst. We used cold drinks and pounded ice as internal refrigerants; and sponging the surface of the body more or less extensively with cold or iced water, or vinegar and water; and these measures were continued throughout the exacerbation, or until the morbid heat abated, taking care not to urge their depressing influence so far as to endanger the system from collapse. In some instances the pounded ice relieved the internal heat and sick stomach almost as soon as swallowed; and it never failed to afford

great comfort to patients suffering from a burning fever and tormenting thirst. Occasionally, too, we have seen complete crisis by perspiration follow its use on the fifth and seventh days of the disease.

Purgatives were indispensable remedies in this stage, likewise, and we invariably employed them as soon as one or two decisive bleedings had been premised. If torpor of the bowels had existed for some days, we generally directed a purgative enema, especially if the case was seen after morning. When, however, they had only reposed for a short time, and no localizing tendency of the disease manifested itself, we preferred to employ internal cathartics. Even after free alvine evacuations from the use of enemata during the day, we generally employed internal purgatives; and our mode of using them was to give from two to seven grains of calomel, with one of ipecacuanha at ordinary bedtime, to be succeeded the following morning by some brisk cathartic. In a large majority of cases we decidedly preferred the oil as a cathartic, and generally found it to succeed very well. Occasionally, however, it proved highly irritating and offensive to the stomach and bowels, by reason of an acrimony acquired by it in those organs. Sometimes it became so very acrid after remaining in the stomach only a short time, as to provoke vomiting, attended with intense gastric heat, and scalding of the fauces, which uniformly aggravated the febrile symptoms. The bowels, too, suffered from tormina, and in several instances a state came on resembling cholera morbus. These unpleasant effects from the oil occurred exclusively in the cases distinguished by great heat. In such examples, after many trials, we finally employed calomel followed by some of the compound saline purgatives, especially sulph. magnes. in combination with magnes. ust., or rhubarb. When a diarrhœal condition of the bowels existed—a state by no means unusual—we employed the rhubarb alone in doses varying from 12 to 30 grains, more particularly if the oil was offensive, or objected to. In every case, with the design of quickening the action of purgatives, we advised patients to lie partly on the right side for one or two hours after the administration of the remedy, so as to favour its passage into the duodenum. This simple expedient has greatly assisted us in inducing prompt purgation, especially when the stomach was irritable, and the reason will at once appear obvious to even the most careless professional observer.

Purging in this stage, was chiefly designed to unload the bowels of ingesta, and thus to remove irritation from their presence in the alimentary tube. It also had the effect in some degree, to emulge the secerning organs opening into, and existing along the intestinal cavity, especially the liver, and the muciparous glands. Not expecting to accomplish any positive curative ends by purging in this stage, we only resorted to it when the bowels became constipated, and when that state seemed likely to irritate the fever. In many cases we relied on purgative enemata of mild qualities, administered during the paroxysm, merely to produce a very partial effect upon the bowels, and with evident febrifuge results. This mode of eliciting

the action of the bowels in continued fever, cannot be too strongly insisted upon; after one decided purging in some cases, we have been enabled to make it supersede the use of internal purgatives, which sometimes are hazardous, by their tendency to produce or to hasten gastro-enteritis, and are always more or less offensive to patients. Even when there are decided cephalic tendencies, enemata may be safely and beneficially trusted as cathartic means in this stage: and as long as they elicited free dejections, we regarded them as effective in arousing the peristaltic movements of the bowels, and in emulging the liver and muciparous secretions. In some instances they seemed to act more decidedly as means of revulsion in the cephalic affections of this stage than internal cathartics.

When purging was to be effected by internal remedies in a decided manner, we uniformly administered the cathartic early of a morning. At this time the bowels respond more readily and perfectly to the action of cathartics; and patients are more apt to sleep the night after, as sufficient time is allowed for the commotion from the operation of the medicine to subside before the hour for sleep arrives. It may not be out of place to state here, that we often succeeded in inducing sleep in this stage, by having a mild enema administered towards early bedtime.

Anti-emetics were occasionally required to compose the stomach, and to relieve nausea, or vomiting, which not unfrequently occurred in this stage. Generally we found the pounded ice to succeed in relieving the sick stomach, especially when it was attended with internal sensations of heat. In some cases, however, it failed, and with such we employed at different times effervescing draughts, especially the soda water, dulcified spirit of nitre, diluted acids, fresh fruits, and absorbents. As an absorbent in such cases, we often used a teaspoonful of levigated carbon recently prepared, mixed in a wineglass of fresh water, taken once an hour, and with the happiest effects.

The drinks employed by us, were generally cold and freely allowed, if desired by the sick, especially during the exacerbations of fever; and nothing generally, seemed to answer better than simple cold water, or cold slippery elm tea. Lemonade, peach, apple, and tamarind water, currant jelly diffused in water, and such like articles, were at different times employed as drinks by us in this stage.

The diet was required uniformly, to consist of light, liquid preparations. Farinaceous substances were generally preferred. Rice-gruel, panada water, buttermilk, coagulated milk, occasionally new milk and water, baked apples, and such other articles as possessed mild unirritating qualities, with very few exceptions, constituted the diet of this stage. Even these light articles were only allowed in small quantities, and after long intervals. We generally inhibited the use of food during the exacerbations of this stage. A cool, well ventilated, clean, and quiet apartment was invariably, if practicable, provided for the sick, and with as few nurses as could perform the necessary duties.

The plan which has been briefly presented, furnishes a fair outline of our

mode of treating the acute stage of the synocha, and typhoid varieties of continued fever; and it may be regarded, too, somewhat as the plan adopted by us in treating the febrile stage of typhus, when distinguished by very acute symptoms, as was often the case. Many variations, however, were required, especially in the employment of the lancet, and purgatives. With some patients a single moderate bleeding was sufficient to reduce and control the pulse permanently. With many others it became necessary to bleed freely in every paroxysm until, and in some instances, beyond the ninth and tenth days; while with others again, after the first or second exacerbation, the lancet was only required occasionally during the nocturnal paroxysms.

Purgatives, too, required to be varied much. In some cases they were needed daily during this stage, as well as throughout the entire course of the disease. Others only demanded them once or twice in the commencement of the disease. While others again, only required them on the critical days.

Regarding continued fever as periodic, after the establishment of the morbid category, and believing that it would pursue its course to a regular termination by crisis, under any plan of treatment, our chief aim in treating it in this stage was, to conduct it safely for the economy, and favourably for a salutary crisis, to the subacute stage in which that important change always takes place, the treatment of which shall next claim our attention.

The Subacute Stage. In this stage, the common symptoms differed from those of the acute chiefly in their intensity, which in some instances was very striking. New symptoms, too, generally occurred, to distinguish it from the preceding stage, and they were always regarded as peculiar to it, among which may be enumerated a peculiar rose-coloured eruption, confined chiefly to the abdomen and chest, composed of a few red, papular elevations, or pimples, which disappear upon pressure, but immediately reappeared after the pressure was removed, and it recurred after the sixth day of the disease. Sudamina, also, frequently made their appearance in this stage, but at a more remote period: they recurred after the twelfth day on the trunk, neck, axillæ, clavicles, epigastrium, limbs. and groins; and consisted of numerous minute vesicles filled with a colourless fluid. Epistaxis; hemorrhage from the bowels, bladder, gums, and uterus; and a peculiar suffused appearance of the eyes; tinnitus, or buzzing of the ears; great impairment of the memory, and of the faculty of attention; somnolency after being roused; slow and hesitating utterance; extreme unwillingness, and inability to exert the body or mind; deafness, and delirium, were pretty uniform attendants upon this stage also.

As the disease advanced the tongue became decidedly drier and darker, and not unfrequently it was swollen, glossy, parched, cracked and bleeding; raw and bleeding—or, incrustated deeply with a flaky sordes—rough and dry, its motions tremulous—was protruded with difficulty, and withdrawn slowly. The teeth and lips were generally invested with sordes; the abdomen was more or less tumid and tympanitic; often the spleen was perceptibly enlarged;

there was cough, with sonorous râle; the countenance was more suffused, red, or purplish, sometimes swollen; the expression was sunken and vacant, or wild; the pulse greatly accelerated and more or less tense; skin pungently hot during the exacerbations of fever; respiration hurried, or preternaturally slow; there was subsultus tendinum, and spasms of the lips—of the muscles of the jaws—of the eyelids; rigidity of the muscles of the neck, limbs, and abdomen; the attitude was supine; there was a tendency to slide downwards in bed; there was sloughing of the skin and soft parts about the sacrum, trochanters, and of blisters; and in a few cases there was inflammation and suppuration of the parotids, and axillary and inguinal glands; and one instance of necrosis of the superior maxillary bone. Hiccough; involuntary discharges of fæces and urine; fetid breath; discharges of pus, or pus-like matter from the bowels and bladder; suppression of urine; paralysis of the bladder and retention of urine; paralysis of the limbs; and an exceedingly rapid, small and feeble pulse, were very often met with, also, in the more advanced stages of the disease. So much for the symptomatology.

The *treatment* of this stage in many cases did not differ very widely from that pursued in some examples of the acute. In numerous instances blood-letting was demanded. We often bled in the nocturnal paroxysms, which were uniformly the most violent; and in many cases, bleeding was required in the diurnal exacerbations likewise. In the synocha form, especially, we found bleeding necessary; and in some instances as late as the 18th and 20th, and even the 25th days of the fever. Our aim was to maintain as moderate and equable state of the febrile reaction during this stage as possible, not only as the best means of preventing any serious injury to the organs generally involved in the local affection, but as the most favourable condition for restoring the secretory exercises, from which the healthful operations were to follow. We bled during the exacerbation whenever the pulse was too active and strong, even until crisis occurred; but our bleedings were moderate, as they were only intended to enfeeble the organs of circulation for the time being: very often only one or two ounces of blood were required to impress the pulse. In many instances topical bleeding by leeching, or wet-cupping was found of very great benefit, especially when employed to the regions of the local affections. The abdominal walls often demanded leeching in this stage, to combat the enteritic irritation so constantly present. It was rarely practicable to cup the abdomen in such cases, in consequence of the extreme tenderness of the soft walls, especially. The pectoral walls were also often depleted by leeching and humid cupping, in thoracic affections of this fever, as well as the temples in the cephalic.

Refrigerants were generally found highly beneficial in this stage. In some cases they succeeded much better in moderating, and in controlling the febrile reaction than the lancet. We employed pounded ice, or iced, or simple cold water as internal means of refrigeration; and had the surface freely sponged with cold or iced water, or vinegar and water, especially the temples, neck,

forehead, extremities, and abdomen, repeatedly, and after short intervals, as the external; and they were continued until the morbid heat of the surface and pulse were reduced for the present paroxysm. In many instances we directed patients to sponge, and drink freely of iced or simple cold water immediately after v. s., and with the effect of producing diaphoresis. In the cephalic affections, and especially when delirium was present, the internal use of ice or cold water, was always freely allowed. We employed them also to the scalp, either by investing the head with a bladder partially filled with pounded ice, or, by pouring the iced water upon it until a decided impression was made. This plan enabled us in many instances of violent delirium to quiet our patients in a few moments. In milder examples we only employed cloths to the head saturated with the cold liquid.

At every period of this stage refrigerants were employed and with great benefit, and we always advised them when the skin was hot and dry during the exacerbations. Great care, however, was required in their employment, in so graduating their effects as not to depress the enfeebled powers of the economy too decidedly, or to endanger them from overpowering collapse. Moderate reaction was always allowed to follow the use of refrigerants; and to secure this result the spongings were used after longer intervals, and with decreasing force, as the paroxysm declined. We were very careful to caution nurses not to sponge while the skin was cool, or only moderately warm, and when perspiring. Purgatives, too, were demanded in the subacute stage, but never to a very bold extent. In a large majority of the cases, we employed oil as an internal purgative. We likewise resorted very often to the use of mild purgative enemata. In this stage, it was of the first importance, to unite remedies with cathartics, which tended by their peculiar therapeutic powers to extend the range of purgative influence throughout the economy. For this purpose we often associated with, or premised the exhibition of our cathartics with minute portions of ipecacuanha, or tartar emetic. One grain of ipecacuanha united with three or four of calomel made into pill with a few drops of water, and given at ordinary bedtime, to be followed next morning by an active purgative dose of oil, or any other cathartic applicable to the case, or even an enema, constituted the course generally pursued by us in this stage. There was much advantage in the administration of the ipecacuanha and calomel the night before the active purgative was given. Thus united they often operated as a diaphoretic compound, and never failed to render the action of the purgative dose which succeeded next day much more effective. In many instances we found the tongue moist and secreting the day after the exhibition of that compound, when it had been previously, and immediately down to the time of giving it, dry. It was not always safe, however, to employ calomel in this stage, as it occasionally proved exceedingly irritating to the bowels, even when given in minute doses. A polished, or raw condition of the tongue, attended with irritable and loose bowels, generally contra-indicated the use of calomel. In

such examples we employed the blue mercurial powder, when a mercurial was deemed necessary, or the blue mass. Occasionally when we were unwilling to use any form of mercurial, two or three grains of aloes, or of aloes and rhubarb, united with one grain of ipecacuanha, were employed, and generally answered a good purpose. Aloes thus combined is not only a safe, but efficacious remedy in such modifications of continued fever, and its great efficiency and safety in these cases, after numerous and satisfactory trials many years since, induced us to make trial of it in dysentery, and the result was most satisfactory. It was never safe to employ saline cathartics in this stage. Their tendency to elicit very thin or watery evacuations, and to prostrate the energies of the secretory organs, without ameliorating their condition, as reducing the febrile phlogosis, rendered them objectionable in our practice, in this stage of fever, almost from the commencement of our professional career. In a few cases, only, were we willing to employ the calcined magnesia, and chiefly, because it frequently produced liquid or watery stools. Oil, the rhubarb in powder or syrup, calomel, the blue powder or mass, aloes, and enemata were the purgatives employed by us almost exclusively in this stage.

Diaphoretics were allowable and necessary in this stage very nearly from its commencement, and we employed many of the established agents of this class as internal remedies. In the commencement of this stage diaphoretic measures were only employed as auxiliaries to purging, though, as they occasionally produced their peculiar sweating effects, we now and then ventured upon their use as diaphoretics, especially, when early abatement of the febrile symptoms took place. Our chief reliance was on minute doses of ipecacuanha, or tartar emetic when internal medication was designed; and these articles were only administered on the nights of crisis. In a very large proportion of the cases treated by us, the ipecacuanha in the form of a pill was the diaphoretic used; and we never administered more than one grain at a time, and the doses rarely ever exceeded three, and after intervals of three hours; more frequently only two were given during the night. In the early periods of this stage, as already intimated, we often united calomel with the diaphoretic; and even at a later period we occasionally employed such a compound. Generally, our design was to make an impression nearly simultaneously on the gastro-enteritic mucous membrane and the liver, as well as on the skin; and the compound ipecacuanha pill already described, rarely failed when judiciously timed, to accomplish those ends. When tartar emetic was used as a diaphoretic in this stage, its watery solution, or the antimonial wine were the forms for exhibition invariably preferred by us, and the doses never exceeded the fourth of a grain. From one-seventh to one-fourth of a grain constituted the extreme doses with adults. This article was only applicable to, and safe in cases of pure synocha, or when the tongue was heavily coated: we occasionally employed it, too, in the thoracic and cephalic varieties, but never when the tongue was polished, or denuded and raw. Like

the ipecacuanha, it was only employed on the nights of crisis, and never more than three doses administered during the night.

In certain cases we derived benefit from the use of the dulcified spirit of nitre in doses of from 25 to 30 drops once an hour, administered in some mucilaginous or diuretic vehicle. This remedy was particularly serviceable when the tongue was dry and the thirst urgent; it afforded great comfort as a refreshing beverage, and was often followed by a marked improvement in the condition of the tongue after only a few doses. We often employed the nitre as a mouth-wash in such cases, and no remedy as yet tried by us has so uniformly tended to restore moisture, and to improve the condition of the tongue: a teaspoonful of the nitre mixed in an ounce of water is the form in which we employ it as a gargle. The aerated waters were likewise often used as diaphoretics, and generally with advantage; they were objectionable, however, in some cases, especially when a tendency to gastro-enteric irritation was present. In several instances in which we used these drinks, violent and sudden pain in the stomach instantly followed their entrance into that organ, produced no doubt by the instantaneous expansion of the tender and inflamed walls by the carbonic acid gas. These drinks are generally very grateful to patients; and they were allowed whenever desired by them, if possible, but caution was always used in the first trials of them.

Alkaline solutions, especially of the carbonates of soda and potass, were often decidedly beneficial as diaphoretics. These articles first improve the secretions of the gastro-intestinal mucous membrane, and very early after diaphoresis takes place; they also exert salutary influences as exciters of secretion through the urinary organs; occasionally they irritated the bowels, and they were laid aside and very gentle purging resorted to.

Revellents and rubefacients were often required in this stage, especially in its decline, to prevent collapse upon the approach of the remissions. In some cases it became necessary to employ them throughout this stage, by reason of the inordinate coolness of the extremities, as well as of the general surface upon the approach of every returning remission. Such depressions and fluctuations of the temperature in this stage of fever, when the organs were enfeebled from irritation, and the long disturbance of their functional operations are fraught with much danger. In several instances death suddenly followed them, when the means of counteracting their evil tendencies were neglected, by the sudden occurrence of hemorrhage from the bowels, or, an overpowering collapse.

We employed some form of revulsion or rubefaction upon the approach of every remission, if there was a tendency to sudden depression, or variation of the temperature of the surface. When the departure was inconsiderable, friction, or the application of artificial heat would generally answer in arousing, and maintaining the actions. But when the depression was considerable, and disposed to become more intense, we resorted to revellents of more active powers, and generally sinapisms, or vesicatories were preferred.

In a majority of instances, sinapisms applied in succession, to the inferior and upper extremities in the direction of the trunk, merely to redden the skin, were found fully sufficient to restore, and maintain for the time being, the actions of the surface. Occasionally, more energetic and permanent means of revulsion were required to recall to the surface, and fix in it a proper degree of action, as either the common vesicating plaster, or sinapisms suffered to remain on long enough to blister. These measures, occasionally, when employed on the nights of crisis, co-operated decidedly with the natural tendencies to crisis; and very often, too, they enhanced the sudorific effects of remedies given to promote sweating. Blisters were generally employed to the inferior extremities, and when allowable to defer them, they were always ordered so as to be in full operation during the morning remission—a remission much disposed to be attended with collapse. These remedies were likewise often required as revulsives, to counteract internal inflammation, either of the abdominal, thoracic or encephalic contents, and with great benefit. They were generally most beneficial when employed to a comparatively cool and bloodless skin, and after the pulse had been decidedly enfeebled. They were always employed to an extensive surface, when used to counteract internal inflammation. We often blistered the abdominal walls, thorax, and head, in this stage with decided benefit.

The treatment which has been premised, was our plan in the early periods of this stage; and we now propose to consider it as required in the remote periods, or, as it might very properly be termed, the Adynamic state.

It was in this stage of the febrile course that most of the lesions of structure occurred, and it appeared in many instances that the change of character or the accession of the symptoms indicative of adynamia resulted from those lesions of structure. Notwithstanding such was the predominant character, we often employed blood-letting in this stage during the exacerbations of fever. Whenever the pulse became decidedly strong, resisting and much accelerated, we bled, taking the pulse as our guide as to quantity. Generally very moderate bleedings answered, say from two to four ounces. Frequently the cautious employment of refrigerants, as already intimated, would reduce the force of the pulse, as well as the morbid heat of the skin, and render the lancet unnecessary. When we bled to any extent in this state, a commanding dose of aqua ammoniæ properly diluted was always directed at the close of the operation. This remedy by its prompt and transitory action prevented collapse from the loss of blood, without irritating the febrile operations. Great care to guard against inequality of excitement was required in this state. It was of the first importance to maintain the temperature of the surface, and the capillaries of the skin well filled, in guarding against those sudden introversions upon the internal organs. Throughout this state we found it necessary, in a majority of our cases, to employ counter-irritants at the close of every paroxysm to prevent collapse, and to protect the en-

feebled internal organs; and we sometimes used sinapisms, and occasionally vesicatories as the one or the other seemed required. Blisters were generally demanded in the more intense forms of this state, either to the extremities or trunk. The nape of the neck we often blistered, especially when delirium attended, and sometimes the head also. The vitiated condition of the secretions invariably in this state required unremitting attention to them, and to ameliorate them, we occasionally used combinations of calomel or blue powder, or blue mass, with minute portions of aloes and ipecacuanha administered at night; and if these failed to act upon the bowels by morning we either directed a moderate dose of oil or an enema at that time. It was very important not to employ the mercurial compound oftener than was absolutely required to stimulate the secretions. When internal aperients were not proper, and the bowels still tardy, we invariably relied on enemata; and gruel, mucilaginous fluids, milk and water, and occasionally soup rendered active by the addition of common salt, or molasses, or oil, were the preparations used as such. Diaphoretics were required throughout this stage every critical night. We frequently at this period united two or three grains of carb. potass. or soda to the ipecac. pill; and rarely administered more than two doses during the night, and more frequently only one. The dulcified spirit of nitre was also often used as a diaphoretic, and with great benefit. When patients could not sleep, and especially if the bowels were loose or inclined to be so, small doses of Dover's powder, with a few grains of blue powder as a diaphoretic anodyne, were beneficial. In certain cases when the circulation was not sufficiently steady and energetic to favour diaphoresis, the addition of one or two grains of gum camphor to the ipecac. pill greatly enhances its sudorific effects; this form was particularly adapted to the periods of this state distinguished by increasing depression.

Another modification of the ipecacuanha pill employed by us, was the combination of two or three grains of the inspissated bile* of the swine, with one grain of ipecac. and two of the carbonate of potass: this compound was most valuable in this stage; and it seemed to act with decided effect, as a supporting and discerning remedy, upon the mucous membrane of the stomach and intestines, and as a diaphoretic at the same time. It was especially

* This article we have used since 1823, and we think its employment as a therapeutic agent is original with us. We were induced to resort to it first in the low depressing states of continued fever, with the design of acting especially on the gastro-intestinal mucous membrane, which we believed became disorganized in such cases in a great measure from the want of the biliary influences; and in these cases it always acted with decided benefit; it served to substitute the action of the bile. Simply heating the bile over a sand-bath until it becomes dry and pulverizable was our mode of preparing it. It is a valuable agent in dyspepsia, and in many chronic affections attended with defective biliary secretion. In chlorosis, amenorrhœa, some forms of dysmenorrhœa, and constipation, we have also often employed it with decided advantage.

valuable in those cases attended with a denuded and raw tongue; this organ always becoming more healthy after its administration.

The highly vitiated condition of the gastro-enteritic contents during this state, in many instances required remedies especially directed to them. The fetor occasionally was intense, and seemed to exert a modifying and depressing influence with the vital movements. To correct the fetor we administered prepared carbon, in teaspoonful doses, mixed in water, once in two hours. During the remissions, the pulse frequently required the support of stimulants to prevent collapse, or dangerous depression; and the necessity for such remedies generally increased with the duration of the disease. For the purposes of stimulation, mint julap or brandy toddy were generally used, and merely to maintain the action of the pulse steadily and equally during those periods.

In most instances rubefacients, or even blisters were demanded in connection with internal stimulants, to prevent depression during the remissions, especially in the advanced stages; and occasionally it was necessary, too, to associate ammonia with the spirituous stimulants, to quicken their action, when sudden depression threatened. The ammoniated and camphorated mixtures and julaps were often employed in this state with or without the alcoholic stimulants, but were more especially adapted to and required in the advanced periods, when the disease assumed more decided characters of depression. At this particular stage, we found the internal use of the spirit of turpentine most valuable. Its peculiar tendency to arouse and maintain the actions, and to superinduce secretion without the least danger of producing over-action, eminently fitted it as a remedy at this period. The turpentine rarely, if ever, induces excessive action, either in the general circulation, or in parts to which it is directly applied, by reason we suppose of its strong discerning tendencies; and hence, perhaps, results its remarkable efficacy in burns, and non-secreting ulcers as a suppurant: we often employed it as a diuretic of great certainty, combined with dulcified spirit of nitre. To blisters, which were generally so important at this period, when disposed to dry up, we often applied the turpentine with the happiest effects. This agent never failed to re-excite the blistered surfaces into a suppurating condition, and with comparatively little pain. With the same intention, and also with a view of communicating a decided shock to the general system at the same time, we occasionally applied the aq. ammon. to blisters about to dry up, and with distinguished benefit. The ammonia is a painful application, though transitory in its action as such, and should never be resorted to unless under peculiar circumstances. We are confident that several cases were rendered convalescent by its use to blisters, which suddenly dried up, and which without it would have been lost. While on the subject of blisters we will remark, as already intimated, that these remedies were indispensable in the low states of this period of the disease; and it was important to continue their irritation after it was once excited. In several

instances fatal results followed the sudden drying up of blisters. Occasionally we employed mild cataplasms, if the blistered surfaces inflamed excessively, as was sometimes the case. The oiled silk we now employ in all cases after the second or third dressing. When strangury followed blistering, the free use of demulcent drinks was always directed, and occasionally bland enemata, and gentle rubefaction with sinapisms to the soles and tops of the feet, legs, and thighs in succession, until relief was procured.

Tonics were often used in this stage, though not until great depression came on; or it was found difficult to sustain the pulse with stimulants only. The bark in substance, in the states of infusion, tincture, and extract was often employed by us, and with advantage. The quinine, we also occasionally used, but not very beneficially: it seemed generally to irritate the stomach, and in some cases produced most obstinate singultus. Columbo we now and then employed, as well as the infusion of quassia, but not with much advantage. Huxham's tincture properly diluted, the infusion of serpentaria, and good porter seemed to succeed best as tonics. Good white wine, also, especially Madeira, was often employed as a tonic stimulant, and very beneficially. In collapse with hemorrhage from the bowels, we used the bark in substance mixed either with Huxham's tincture, or wine; and in some cases gave a heaping teaspoonful every half hour until the hemorrhage was arrested. In hemorrhage from the nose and gums, we employed the bark by enema and in large portions, in combination with capsicum or ginger, and either ten grains of tartar emetic, or thirty-five of ipecacuanha to each injection, to be repeated once in three or four hours, or oftener in urgent cases, and generally with great benefit. Blisters to the nape of the neck were also resorted to, as well as local astringents. Singultus was occasionally troublesome; but was generally allayed by the use of acid syrups, carbon, and the solution of the inspissated hog's-gall in doses of four grains, in a vehicle of sugared alkaline water; or, by the gall in combination with musk and gum camphor in common doses; and these last named remedies were repeated once in three hours until relief was obtained.

Subsultus tendinum frequently occurred at this period, with or without a tympanitic state of the abdomen, and when violent, fomentations to the tumid abdomen invariably greatly moderated it. Occasionally, too, the bile in combination with gum camphor, ipecac. and aloes, exhibited once in three hours, relieved it.

Sloughing of the soft parts about the sacrum and trochanters was sometimes troublesome. To prevent this the usual remedies were resorted to. When sloughs formed we generally cut them away as early as possible, and dressed the wounds with spirit of turpentine until suppuration was established; suppuration of these wounds generally exerted a salutary influence, and frequently seemed to induce favourable crisis by perspiration.

To induce sleep in this stage we often had recourse to anodyne enemata; and three ounces of common soup, or starch gruel, with 20, 30, or 50 drops

of laudanum, constituted the injections used by us, administered at bedtime, to be repeated once in six or eight hours if necessary.

Throughout this stage tonics and stimulants were most beneficial during the remissions, though they often became necessary at other periods likewise; and great care was required not to omit or misapply them. The objects in view in resorting to these agents, being to arouse the sinking or enfeebled energies, and to maintain them equably, little difficulty was experienced in adopting them, if the pulse was properly regarded.

In several very unpromising cases in the low states of this fever, we employed conjointly with tonics and stimulants, external heat, applied to the entire surface, save the face, and in intense degrees, with the happiest effects. In these cases the system was comparatively insusceptible to the action of tonics and stimulants until the capillaries of the skin had regained in a great degree their plenitude. The heat was applied nearly in a dry state, and was continued the first trials until the skin became soft and supple. After a few hours it was repeated and urged to a very moderate sweating degree. The operations were then renewed from time to time as the condition of the skin indicated, until crisis took place, which generally occurred in one or two days. For the purpose of applying heat in these cases, we employed the admirable contrivance of Prof. Jennings, of Baltimore,—a contrivance which has never been properly appreciated by the profession, and which is worthy of all praise.

The maintenance of a warm bloodful state of the skin in this stage, was not much more important as a means of cure, than a tranquil equable condition of the mental exercises. Several fatal cases occurred evidently as the consequence of improper mental exertion.

Cleanliness was of much importance, not only in promoting the comfort, but the recovery of patients. The mouth was always carefully washed before drinks or food were taken. The body clothing and bedding were changed daily; and bed-pans or folded sheets, to receive the evacuations, were always employed to prevent the necessity for rising from bed to evacuate the bowels, and the consequent dangerous fatigue. As far as practicable the sick chamber was kept quiet and free from company.

The diet and drinks were the same as we used in the early stage.

Convalescence was generally slow, and often required enemata, or internal aperients to correct costiveness. It was never safe to allow solid food during convalescence until patients were able to sit up. Many relapses followed from the too early use of animal food. Liquid or semifluid substances answered best as nourishment; and these were only allowed at stated regular periods, and in moderate quantities. Premature exposure to the sun's rays, or to inclement weather, or fatigue, were injurious. Many relapses were produced by an imprudent walk, or ride, and some of them proved fatal.

The treatment which has been presented is identical with that adopted in

typhus, with the exception of bleeding in the subacute stage. We never dared to use the lancet in the subacute stage of typhus.

The critical days were generally the periods of crisis in this fever, and the 14th and 21st both days included, were the days on which most of our cases terminated. One case continued six months and resulted fortunately, though many of the inguinal and axillary glands sloughed away. Many recoveries followed hemorrhage from the bowels, bladder, nose and gums; but, generally, such conditions were unfavourable. Recoveries also took place in several cases, in which singultus, and involuntary discharges from the bowels occurred, and even in many instances after patients had been speechless, and powerless for an entire week. Only three cases terminated in suppuration of the parotids, and one of them recovered. One case resulted in necrosis of the superior maxillary bone, and after losing one-fourth of the bone complete recovery followed: in this case no mercury was used. Rheumatism followed in numerous cases. In one case disorganizing ophthalmia followed, completely destroying the eye.

PRINCE EDWARD C. H., Va., March 30, 1843.

ART. IV.—*Fungus Hæmatodes of the Knee—Amputation—Cure.*

By HENRY S. LEVERT, M. D., of Mobile, Ala.

MRS. STRAIN, aged 28 years, of sanguine nervous temperament, and the mother of seven children, was attacked with ordinary cold, accompanied with slight fever, &c. in the month of October, 1841, which confined her to bed about one week.

When she was recovering from this attack, she felt, for the first time, a slight uneasiness in the left knee, about the insertion of the ligamentum patellæ, which she supposed was produced by some slight injury of the part, although she was not aware of ever having hurt it. It was particularly painful when ascending or descending the stairs, or in kneeling, which she was often compelled to do in washing her house.

About six weeks from the first sensation of pain, she perceived a swelling on the inner side of the ligamentum patellæ, in circumference about the size of an egg, slightly elevated and very hard to the touch.

It remained in this condition, giving her more or less uneasiness, until about the 1st of February, 1842, when it commenced growing rapidly, as she supposed in consequence of the irritation of several blisters which had been applied in succession, followed by the tart. emet. oint.

The remedies were prescribed by a physician, under the impression that the patient suffered from rheumatism.

On the 10th of March I was requested to visit her: the appearances presented were as follows:—viz.

The leg was flexed on the thigh at an angle of about 45° , and firmly fixed in that position. A large elastic tumour, somewhat irregular on its surface, measuring six inches in its longest and five inches in its shortest diameter, occupied and surrounded the knee-joint. The skin was not discoloured, but rather paler than natural, the superficial veins very numerous and greatly enlarged.

She complained of constant dull heavy pain; no particular constitutional disturbance existed, although she was a good deal emaciated.

This case presented to me a well-marked fungus hæmatodes, and I at once recommended amputation as the only means of affording her even a chance of recovery. To this, after the lapse of several weeks, she consented, and the operation was accordingly performed on the 4th of April; the limb being removed by the double-flap operation of Lisfranc, at the upper third of the thigh.

The muscles and cellular membrane presented a very unhealthy appearance, the former were flaccid and soft, and the latter was filled with a thin, yellowish, serous effusion.

Six hours were allowed to intervene between the removal of the limb, and the dressing of the stump, which was done after the manner of Liston, by drawing the edge of the cut surfaces accurately together, with strips of oiled silk, which had been previously coated with isinglass. The stump was covered with lint, and kept constantly wet with cold water.

No unpleasant symptoms followed; the wound united in a short time throughout its whole extent, with the exception of the point from which the ligatures hung.

This happy result I did not anticipate, but very much feared extensive sloughing from the unhealthy appearances which the parts exhibited.

At the time of this operation, Mrs. S. was pregnant with her eighth child, and had advanced to the fourth month, she having felt the motion of the fœtus on the 2d of April, two days previous to the operation.

Notwithstanding the apparent cure in this case, I entertained serious apprehensions (as did several of my medical friends who saw it), that the disease would attack some other part, most probably some of the internal organs shortly after parturition, and we looked forward with much anxiety to this period: such, however, was not the case: she was delivered at the expiration of nine months of a full grown male child, which only survived a few days; she soon recovered from her confinement, and has since that period enjoyed the most perfect health.

I may remark here, that an examination of the amputated limb, fully confirmed our diagnosis; it exhibited all the appearances of a well-marked fungus hæmatodes; the heads of the tibia and fibula, and the condyles of the femur, together with the semilunar cartilages being destroyed, and could

not be distinguished from the muscles and other parts concerned in the disease.

The ligature with which the femoral artery was secured still remains on the vessel, although more than twelve months have elapsed since the operation; it however produces neither irritation nor discharge of pus.

MOBILE, Ala., April 20, 1843.

ART. V.—*On the Treatment of Puerperal Convulsions before the full term of Utero-Gestation.* By S. HARRIS, M. D., of Clarkesville, Va.

OF the many accidents incident to pregnancy, that of puerperal convulsions is among the most alarming, the most sudden, and the most unmanageable. Intimately connected with and dependent on the gravid uterus, there is no period of pregnancy exempt from its attacks. It is admitted by all, that cerebral congestion is the most common cause of these convulsions; but it is contended by some, that they occur under an opposite state of the brain, and it cannot be denied but that there are some facts to sustain this opinion. Be this however as it may, they are generally preceded by undoubted evidences of a fulness of the vessels of the head, such as a flushed face, headache, giddiness, drowsiness, tinnitus aurium, &c. They are most common in the latter stages of pregnancy, and in labour during the violence of the parturient pains; and it is said, that they sometimes come on after labour has terminated. It is no part of my present purpose to describe this disease, as the symptoms are familiar to almost every practitioner. My design is simply to call the attention of the profession to a material point in its treatment, when the usual remedies fail, and we are compelled to resort to delivery, but the os uteri is found undilated, and undilatable by gentle means. We are advised, and on this point I believe all agree, to bleed the patient as long as the pulse will bear it, to give cathartics, and apply cold applications to the head. But in the event of these remedies failing, we must endeavour to evacuate the uterus with as little delay as possible. Different means of effecting this object are accurately and minutely pointed out, to be used according to the circumstances of the case. We are told to deliver with the forceps, if the head of the child be engaged in the pelvis and the os uteri dilated; or if not engaged in the pelvis, but above the brim, and the membranes have not been ruptured, the hand must be introduced, and the child turned and delivered by the feet; or if this be impossible, the perforator must be used. Now all these operations are made to depend upon the condition of the os tincæ. If not dilated or dilatable by gentle means, we are advised not to attempt any thing. All the authorities that I have consulted, disapprove of a forcible entry into the uterus under any circumstances.

Now I am not disposed to question the correctness of this established principle, as a general rule of practice; but in the disease which we are now considering, it frequently happens, that delivery or death are the only alternatives presented. And must we then quietly seat ourselves, and witness the certain triumph of this terrible disorder? Do not the tears and entreaties of husband and friends justify, and even demand, a last and desperate effort to ward off the fatal result?

We will suppose that a woman enjoying apparent good health, is taken suddenly with these convulsions in the fifth or sixth month of pregnancy; she is bled as far as her pulse or strength will allow, cold is applied to the head, cathartics administered either by the mouth or per anum, without any, or but slight abatement of the fits. On examination per vaginam, the os uteri is found nearly closed, hard and callous, and no manifestations of uterine contractions. The patient, during the intervals of the fits, lies in a profound stupor, unconscious and helpless, with a stertorous breathing, the eyes fixed, with dilated or contracted pupils; the heart, though still true to its office, propels the blood with a weak and vacillating action; a cold clamminess spreads over the upper portion of the body, with other equally distinctive signs of approaching dissolution. What, I ask, is to be done under such trying circumstances? Must the case be given up to nature, or are we not justifiable in making a forcible entry into the uterus, and extracting its contents? I am decidedly in favour of this last painful resource. And hopeless as such an undertaking may seem to be, it is nevertheless practicable in most cases, unless, perhaps, in the very early stages of pregnancy. But it may be asked, will this forced delivery, even if it can be accomplished without a laceration of the os and cervix uteri, save the life of the woman? I answer, that to judge from the few cases of the kind which I have seen, it probably will, unless pretty extensive effusion has taken place in the brain. In support of this opinion, I will relate a case that fell under my observation in the spring of 1838.

I was called in consultation to Mrs. —, a strong, healthy, plethoric woman, about sixteen years of age, pregnant with her first child. She was in the fifth month, and up to the time of the attack of puerperal convulsions under which she was then labouring, had enjoyed robust health, with, perhaps, occasional transient pain and giddiness of the head, flushed face, and ringing in the ears. The convulsions came on suddenly, and recurred at intervals of twenty or thirty minutes. Up to the time I first saw her, which was probably ten hours from the commencement of the attack, she had had twenty-two or three distinct fits. A neighbouring physician, of some distinction, reached her in the morning, soon after the onset of the disease, and bled her freely, indeed I may say largely, and repeated the operation several times during the day. The bowels were likewise emptied, and irritants applied to the extremities. I found her, on my arrival, totally insensible to surrounding objects. The most glaring light produced no change whatever

in the pupils of the eyes, which were fixed and distorted. The loudest noise excited no manifestations of consciousness. Deglutition if performed at all, was involuntary, and the power of articulation was completely suspended. Her breathing was laboured and stertorous, and the pulse weak and fluttering, and sometimes not even perceptible at the wrist. There was no evidence of uterine action, and on examination the os tincæ was found almost entirely closed, hard and unyielding. Viewing the case as nearly desperate, but still desirous of doing something, we determined to administer ergot, regardless of the rigidity of the os uteri. Several twenty grain doses were accordingly put into the mouth, but from the inability to swallow, very little, if any, was conveyed to the stomach. No uterine contractions resulted from this experiment. The paroxysms continuing to recur with unabated fury, I proposed as the only resource left to make an effort to deliver her. This my colleague in the case assented to, though reluctantly, as he considered it, if not impossible without certain death, to say the least of it rash and useless. I determined, however, to make an effort. Not having with me my obstetrical instruments, I was under the necessity of making a small crotchet for the purpose, out of the spindle of a cotton spinning wheel, such as is used in many families in the southern and western parts of the United States. As some of the readers of the *American Journal of Medical Sciences* may not be familiar with this domestic machine, I will describe that part of it which I used on this occasion as well as on others of a like emergency, when time was not allowed to procure more suitable instruments. It is a small round iron spike, from twelve to fourteen inches long, gradually tapering off from about the middle to a point at one end, while the other half remains of a uniform size, say one-fourth of an inch in diameter. The hook was readily made by heating the sharp point to a red heat, and bending it exactly as I wished. For the purpose of perforating the head of the fœtus, I wrapped with tape the blade of a common dirk knife to within half an inch of the point. With these rude instruments I prepared for the operation, by placing the nates of the woman on the edge of the bed, with a chair and an assistant on each side to support the legs, (the usual position in this country for turning). With the index finger of the left hand I soon found the os tincæ, and cautiously but firmly thrust it into the uterus. The second finger by dint of perseverance, was likewise forced in by the side of the first. This effected a slight dilatation of the passage, and after ascertaining pretty satisfactorily that the fetal head presented, I withdrew my fingers and carried up the point of the knife, carefully guarded with my finger until it reached the head, which I pierced readily by acting on the handle of the knife with my right hand exterior to the vulva. After perforating the head, I introduced the hook, and with some difficulty fixed the point in the bones of the cranium. These were, however, so soft as to yield under the slightest force. I succeeded ultimately in fixing the point among the bones at the base of the skull. The last situation enabled me to use as much force as I pleased, but bearing

in mind the delicacy of the parts thus rudely assailed, I did not exert it beyond what I supposed would have been the natural expulsive power of the uterus, under ordinary circumstances in abortion, at the fifth or sixth month of pregnancy. Though occasionally interrupted by the recurrence of the fits, the efforts at delivery were kept up at short intervals for several hours, when finally the os uteri yielded, and I succeeded in extracting the fœtus and secundines. Little or no hemorrhage ensued. The woman was then placed back on the bed in what appeared to be a truly forlorn and hopeless condition. Blisters and warm applications were immediately applied to the extremities, which were now cold and clammy. As is usually the case, she had two or three fits after delivery, but they were less severe and occurred at longer intervals. She remained in a comatose state nearly twenty-four hours, frequently without any pulse at the wrist, or the ability to swallow either nutriment or medicine. Gradually, however, reaction came on, the breathing became less stertorous, the pulse slower and fuller, the surface warmer, the face less livid, and the eyes more natural in appearance. In this situation she remained for several hours, and finally waked up as if from a sound sleep, uttering moans and inarticulate cries of pain and anguish. Consciousness having returned, she was soon able to converse a little with her anxious friends, and take a little fluid nourishment, but the complete restoration of all her faculties was retarded for several days, in consequence of the severe shock which the brain had received. Mild laxatives with an occasional mercurial purgative, a nutritious but not stimulating diet, frictions on the surface, with quiet but cheerful company, soon restored her to perfect health. As far as I was able to ascertain, neither the uterus nor its appendages sustained the slightest injury from the operation. She has since been pregnant three or four times, but has not as yet brought forth a living child. Generally she has an abortion about the fifth or sixth month, preceded by giddiness and pain in the head, and on one occasion slight convulsions, which ceased after the expulsion of the fœtus, but a partial paralysis remained in one arm and hand for six or eight months afterwards.

The result of this case proves, I think beyond all question, that we are not only justifiable, but in duty bound, when all else fails, to force our way into the uterus and remove the offending cause. The practicability of this too much dreaded operation, without serious or permanent injury to the organ, is likewise demonstrated in the following case.

I was called in the month of February 1839, with two other medical gentlemen, to see Mrs. —, with puerperal convulsions, pregnant with her fifth child, and about thirty years of age. Naturally of a thin, nervous habit, she had never enjoyed robust health, and for several years previous to the attack, had been declining in strength and vigour. She was in the latter part of the fifth or first part of the sixth month of gestation. She had been labouring under the disease eight or ten hours when I first saw her, and had had probably a dozen severe paroxysms. The os uteri was undilated, and

we were unable to discover any indications of labour. After bleeding freely and finding no relief, it was proposed to deliver her at once. This I accomplished in nearly the same manner as in the other case. She had only one fit after the extraction of the fœtus, but remained in a state of almost hopeless insensibility for many hours. The general aspect of the case was very similar to the one already detailed both before and after delivery; but it could not be viewed otherwise than as a more hopeless one, as this lady had neither the youth nor vigour of constitution of the other. The next day after the operation she became rational, but was unable to articulate distinctly. The following evening fever came on, attended with a low muttering delirium, and a slow but full pulse. There was no tenderness or swelling of the abdomen, nor were the vaginal discharges at all different from that which usually follows abortion. There was, however, a retention of urine for several days, which compelled us to use the catheter. In order to lessen the violence of the reaction, she was bled from the arm and cupped on the temples, cold applied to the head, and the bowels evacuated. Her case continued on for six days, with some slight remission of the symptoms in the forenoon, but a high fever with wandering delirium in the evening. During all this time she enjoyed not one hour's refreshing sleep, nor did one-sixth of a grain of the sulph. morphia which we ventured to give her, produce more than an unquiet stupor. She would occasionally, in the morning, converse for a few moments on the subject of her children, or domestic concerns; at all other times she appeared unconscious of, or indifferent to what was passing around her. There was evidently in this case pressure on the brain, either from congestion or effusion, and the treatment pursued was strictly in accordance with this view of its pathological condition. She died on the seventh day. Had delivery been resorted to sooner, possibly the result might have been different.

We find that the os tinæ, though closed and rigid, will, by persevering efforts, generally admit one and sometimes two fingers, which will enable us to perforate the fœtal head, if presenting, without wounding the uterus. This being done, and a proper degree of tractive force applied, the passage will generally dilate and allow the fœtus to be extracted. It is admitted, I believe, by most of the standard authorities on the subject of parturition, that the child being forcibly impelled by the contractions of the uterus at the full period of utero-gestation towards the os uteri, contributes powerfully to dilate this opening, by overcoming the resistance of its circular fibres. Is it not probable, therefore, that if an equal degree of force be applied directly to the head of the child, and kept up at proper intervals for a reasonable length of time, that the same effect will be produced? Unaided by the concurrent action of the uterus itself, I grant that we might not so readily succeed; but it rarely happens that this sensitive organ fails to second our designs. Roused up by the rupture of the membranes, and the tractive efforts of the

operator, the contractions of the body and fundus, contribute more or less to the dilatation of the os uteri, and the ultimate delivery of the fœtus.

Not having seen a case of convulsions of the epileptic or apoplectic form, earlier than the fifth month, I am not prepared to give any positive opinion as to the practicability or utility of extracting the ovum in the first period of pregnancy. But so firmly convinced am I of the importance of the operation in such cases, that I should not hesitate one moment, other things having failed, to make the attempt. I have frequently seen this disease in the latter stages of pregnancy, and during labour at the full term of gestation, and I have not yet succeeded in checking it even until after delivery, either by the natural powers of the uterus, or by an operation.

In thus presenting to the public my views, in reference to this formidable malady, based on an experience so limited, I can only hope to direct the attention of others to the subject, rather than expect an imitation of my rashness. If I have subjected myself to the imputation of having violated an established rule of practice, in the two cases reported, I have at least the consolation of knowing that the bold innovation of forcibly entering the uterus and delivering the fœtus, saved the life of one patient, and did not injure the person of the other. It is only as a *pis-aller* that I can recommend this course, and I venture to affirm, that if timely resorted to, it will, under guidance of reason and the promptings of ingenuity, result very often in the preservation of human life.

[Every proposition for the relief of so terrible a disease as puerperal convulsions is deserving of a respectful consideration, and therefore we have given place to the preceding well drawn up paper. The cautious practitioner will however doubtless require evidence of greater success from the practice advocated by our respectable correspondent, than has been adduced, and will duly weigh the consideration whether the forcible dilatation of the os uteri is not likely to be productive of more injury than the delivery will be of benefit.

Dr. Churchill, the author of one of the best works on diseases of women, and an experienced practitioner, remarks on this subject, "I believe there is no dispute that, until labour sets naturally, interference would be injurious; so that in convulsions during gestation, we have nothing to do with the uterus, but must confine ourselves to the treatment of the convulsive disease."—*Diseases of Females*, Am. Ed. p. 403.

Dr. Rigby, equally high authority, states: "The practice in former times of dilating the os uteri, introducing the hand and turning the child, has been long since justly discarded, for the irritation produced by such improper violence would run great risk of aggravating the convulsions to a fatal degree."—*System of Midwifery*, Am. Ed. p. 385.

Mr. J. T. Ingleby entertains similar views. "From the seventh to the ninth month," he observes, "delivery, when it is expedient, may certainly

be accomplished, but every objection which attaches to artificial delivery at the full term of utero-gestation, applies with peculiar force to the performance of it, if undertaken before the term is completed, since the cervix uteri will not have undergone its full development. In numerous instances death has speedily followed artificial delivery; in others, the event has not been so immediately fatal. In an instance of very recent occurrence, the comatose state in which the patient died, did not take place for many hours after delivery; she was in the eighth month of pregnancy, and labour succeeded the artificial evacuation of the liquor amnii. Even admitting that the convulsions which arise previous to labour depend *primarily* upon the condition of the uterus, it is important to recollect that labour is not always necessary for their removal, and that whether delivery be effected artificially, or by the violence of the paroxysms, the convulsions may continue in full force, notwithstanding the evacuation of the uterus; possibly indeed, the impression previously made upon the brain may be increased by the efforts which attend delivery.”—*Facts and Cases in Obstetric Medicine*, p. 31.

Again, he says, “It has been already stated that convulsions sometimes cease under *natural* and *spontaneous* labour-pains, nevertheless it is equally true that manual interference is, at the moment, calculated both to renew the paroxysm and render it more violent: thus Denman found the mechanical dilatation of the os uteri productive of these effects, and the best informed writers, including Chaussier, fully confirm his statement. The principle of forwarding the dilatation of the os internum by means of the fingers, can only be commended when the orifice is in a soft and yielding condition; under contrary circumstances, the practice cannot fail to be injurious.”—*Op. cit.* p. 33.

Mr. Symonds, in a paper on puerperal convulsions (*Lancet*, 8th Feb. 1834), after detailing the particulars of four cases successfully treated—first, by depletion, cold to the head, blistering, the warm bath, and camphor and opium—concludes in the following words: “Instructed by my own experience, and fortified by the authority of such writers as Denman, Blundell, and Gooch, I would say with the latter, take care of the convulsions, and let the uterus take care of itself.” In this as a general principle Mr. Ingleby says that he quite concurs, and adds, “but exceptions to it may arise. When the attack appears during actual labour, our line of practice is clearly defined; we must moderate excessive action, and deliver on the first favourable moment. But should the convulsions *precede* labour, the practice pursued by Dr. Joseph Clarke (very similar to that recommended by La Motte) is the most rational that can be followed, viz. to trust to nature’s efforts, aided by medical treatment, until the patient’s life appears to be *immediately* endangered by the continuance of the disease, and then to interfere in the speediest and safest manner to promote delivery. The circumstances which justify interference demand an impartial and dispassionate consideration, and should embrace the state of the uterus, the presentation of the fœtus, the period of gestation,

and the violence of the symptoms. An apprehension lest the patient may die undelivered, has often proved an incentive for undertaking delivery at any risk, and, doubtless, the interests of the mother alone ought to decide so momentous a question; indeed, under severe and frequent paroxysms, especially of the tetanic kind, the child is frequently still-born. In Collins's cases, 14 of 32 children, including two twin births, were born alive. Of 43 cases, including a twin birth, which occurred under Dr. F. H. Ramsbotham's observation, 21 of the infants survived. The death of the child is considered, by this gentleman, to depend rather upon a defective utero-placental circulation, than upon direct pressure; but the result may be occasioned by either cause.

"The want of success in delivering generally arises from one of two causes; the first—delivering too early, before the uterine orifice has undergone sufficient relaxation; the second—postponing the delivery until effusion has taken place, or a fatal impression been made upon the brain. Previous to delivery being attempted, sufficient relaxation of the uterus must therefore be obtained by bleeding or emetic medicines in nauseating doses, purgative enemata, and perhaps the application of belladonna to its orifice, otherwise we incur the risk either of an apoplectic seizure, or a laceration of the uterus or vagina.* This precaution has less regard to the degree of dilatation of the os uteri, (for the orifice is not unfrequently more or less open for many days before labour,) than to its state of softness; and if a decided impression be made upon it during the paroxysm, the sooner delivery is accomplished the better. Although the uterine orifice often becomes relaxed earlier than we might *a priori* infer, a moderate degree of resistance is, in every delivery, both to be expected and desired: but a forcible entry into the uterus must be discountenanced by every rational practitioner. Ashwell considers that we may always dilate the uterus with the fingers: a statement which I cannot assent to, and it is with marked propriety that Collins strongly cautions the practitioner to 'avoid hasty measures for the delivery of the child.'" *Op. cit.* p. 35, 36, 37.

All these considerations should be duly weighed, and we would particularly recommend to the junior practitioner a careful perusal of the admirable remarks of Mr. Ingleby on puerperal convulsions, in the work from which we have just quoted.—EDITOR.]

* Of five fatal cases recorded by Collins, three were complicated with laceration of the vagina.

ART. VI.—*On Staphyloraphy*. By JOSEPH PANCOAST, M. D., Professor of Anatomy in Jefferson Medical College, Lecturer on Clinical Surgery at the Philadelphia Hospital, etc.

THIS operation is an invention of modern surgery—though the idea of reuniting the two edges of a fissured velum palati was entertained by the older surgeons, and is said to have been successfully performed by M. Le Monnier, in 1764. To Graefe of Berlin, and Roux of Paris, who performed their first operation of the kind in 1816–17, are we indebted for the example which introduced the operation into general use.

A congenital division of the palate, a fissure resulting from a wound of the organ, or a destruction of a part of the substance by ulceration impairing the clearness of articulation, are the common causes, which require the performance of this operation.

In simple staphyloraphy the principle of the operation is the same as in simple harelip, viz: to remove the margins of the fissure with a cutting instrument, and to hold the raw edges in contact with each other till there is time for union to take place. But in cases where the fissure of the palate is too large to admit of the edges being brought into contact at all, or without being placed in such a degree of tension as to render union impossible, some modification of the plastic art is required in addition, to which the term staphyloplasty is applied. This may consist in a partial division of the two sides of the cleft palate, near their bony connection, so as to admit the middle strips to be readily brought together; or by the raising of flaps from the sides or the roof of the mouth, which are to be turned over and fastened by suture in the middle line. The plan of partial division, is especially applicable where the sides of the fissure cannot well be brought together, not so much in consequence of loss of tissue, as from the long continued action of the palate muscles, which have retracted the corresponding halves of the palate, till they have become partially lost in the mucous covering of the sides of the throat.

The raising of the flap has been applied to cases where the loss of tissue is greater; but the attempt has not been attended with success, such as to render it worthy of repetition. The liability of the flap to sloughing, the imperfect and ill-shaped velum which it forms even if union should take place, and the danger of producing necrosis in the bone from which the covering has been stripped, are objections of much moment to this mode of operation.

The following observations will illustrate my mode of proceeding; 1st, in simple staphyloraphy; and 2d, where in addition is required, an incision of the sides of the palate or some other process of staphyloplasty.

CASE I.—Marian Giberson, of Monmouth county, New Jersey, a strong healthy girl of 16, with a congenital fissure of the soft palate, of medium size, —about half the dimensions of the one shown in fig. 1, which impaired her speech and interfered somewhat with deglutition, was referred to me August 14th, 1841, by Dr. Millar, of that state, for the purpose of having the operation of staphyloraphy performed.

For a week or more previous to the operation, care was taken to prepare the patient so as to facilitate the process, by pressing upon the tongue, touching the soft palate and pharynx with the handle of a spoon, till the irritation could be borne without exciting cough or producing nausea. The patient was seated in a chair in front of a large window. Seating myself opposite I then proceeded to the first part of the operation, assisted by Dr. Moehring, of this city. I took hold of the divided uvula on the right side, with a pair of Assalini's forceps, holding it lightly on the stretch, and passed Wenzel's cataract knife (the handle of which was made three inches longer than usual), through the velum, just far enough from the edge to remove the whole rounded border, as I severed it rapidly up to the apex of the fissure. I then withdrew the instruments, and allowed the patient to wash out the mouth with alum water. The incision not having extended quite down to the free end of the uvula, there was no floating point to irritate the passages, and the hemorrhage that followed was soon checked.

I repeated the operation in the same manner on the opposite side, at this time running up the knife so as to meet the other incision at the top of the palate; and carrying the knife again down, I cut through the free edge of the uvula, so as to leave the forceps attached to the loosed marginal slip. By retracting the forceps the loosened piece was drawn out, nearly straight, and its attachment to the uvula of the right side removed with the knife.* After well rinsing her mouth out with alum water, till the hemorrhage was in a great measure checked, the patient was ready for the *second part of the operation*, the *introduction of the ligatures*.

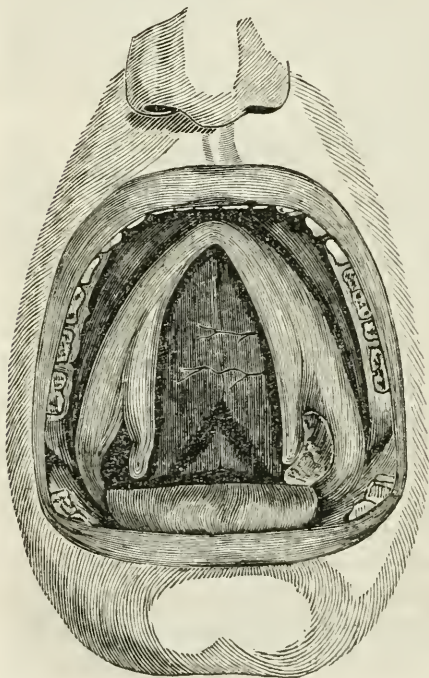
Six stout, short, curved needles, lance shaped at the point, were arranged in a cushion in two rows, within reach. Three were threaded with long stout silken ligatures, of which the knot was to be made, and three with a fine silk thread, to be employed only for a temporary purpose, so as to enable me to enter the needles on both sides from before backwards.

Physick's artery forceps and the common dressing forceps made long in the handles, were the only instruments used in passing the needles. The three needles armed with the thick ligatures were first passed on the left side, one near the base of the uvula, one near the middle and one near the top of the fissure.

* In the following case I found so much irritation and cough produced, that I was obliged to remove the instruments, and let the patient again rinse out her mouth, before the V shaped piece was detached from the uvula of the right side.

The needle held in the Physick artery forceps, was presented with the point perpendicular to the membrane, the handle being carried to the opposite corner of the mouth for this purpose. When the needle had pierced perpendicularly the membrane, the handle of the forceps was carried across the mouth to the other corner, and the needle pushed on, when from its curved shape the point came into view in the fissure, and was seized with the dressing forceps held in the other hand for the purpose. The needle was then withdrawn, bringing one end of the ligature with it. The sharp edged needle being presented in this way, the velum will be found sufficiently tense without being stretched or even held with an instrument for the purpose, to allow the ligature to be readily passed. By this means we avoid one great source of irritation in this part of the operation, viz: the introduction of an additional instrument, and the disposition to cough or choke, when restraint is made on the velum. The needle held in the dressing forceps, was first carried obliquely downwards and backwards, till it was freed from the palate, and then brought out heel foremost through the fissure. It was then removed and the two

Fig. 1.



loose ends of each ligature knotted so as to prevent the ends of different ligatures being confounded together. From time to time, the throat was rinsed with the astringent wash, and the mucus which accumulated on the ligatures wiped away. The three needles with single threads were passed on the left side, in the same manner and without difficulty. It now remained to bring the end of the thick ligatures which had been carried to the back part of the palate on the right side, through the punctures which had been made with the needles on the left. This was readily effected by knotting together the two back ends of each corresponding pair of ligatures, which were long enough to be drawn out by the mouth for the purpose, flattening the knot with a squeeze of the forceps, and

pulling upon the single thread, so as to carry the knot and the back end of the ligature of the opposite side with it, the end of a forefinger being pressed upon the velum as the knot was passed with a slight twitch through the puncture. The double ligature being now passed through both sections of

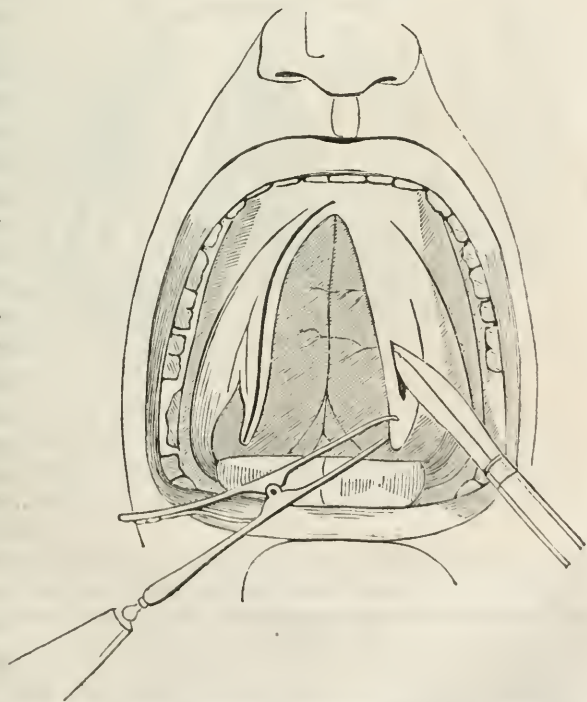
the velum, the glairy mucus was wiped away from the threads, the ends of which were assorted and held in due order between the fingers of an assistant, one of whose hands was passed from behind on either side of the face for the purpose.

The third step of the operation, the tying of the ligatures, and the closure of the fissure was next performed. This was readily done by carrying the two forefingers back in the mouth, so as to close the knots firmly. The threads were cut off with scissors curved on the flat close to the knot as each respective one was tied. The lower ligature was first knotted and the upper one last. The entire operation lasted but 38 minutes. The usual after treatment was pursued, as will be fully detailed in connection with the following case. The patient could not be restrained from drinking, taking food, and talking occasionally beyond the first 24 hours. On the removal of the ligatures, union had taken place, in about two-thirds the extent of the fissure. A small hole remained above which was subsequently closed by touching with caustic; and a small gap about an eighth of an inch long, at the side of the uvula, which as it seemed of little importance, and would not close under the caustic, was not interfered with.

CASE II.—Catherine Abel, a healthy girl of this city, aged 21, has a congenital fissure of the palate of unusually large size.* It is about two inches in length, extends up to the bony palate, and is about an inch in width at its widest part. She has a younger sister and two brothers, the sister suffering under the same affliction as herself. The accompanying cut is an exact representation of the palate, taken by Mr. Schultz.

The operation for closure of the fis-

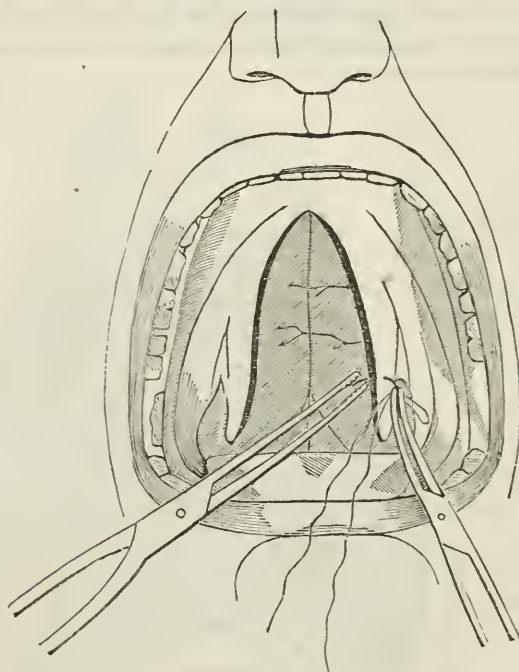
Fig. 2.



* For the notes of this case I am indebted to Dr. George Newbold, the house surgeon

sure, was performed before the class of the Philadelphia Hospital, Feb. 7, 1841. The previous preparation of the patient, the excision of the edge of the fissure, and the introduction of the ligatures was much in the same manner as above described, for simple suture.* From the very large size of the opening, four sutures were made in this case, and it would probably have been better had five been employed. As the edges of the fissure could not be approximated by simple suture, and it was determined to make a partial division of the base of each half of the velum, so as to enable the ligatures to draw the edges of the middle opening together, four ligatures of the common saddlers' silk were passed double and drawn subsequently through on the other side with as many temporary single ligatures, which were passed from before backwards on the opposite side for that purpose alone. These double ligatures were ultimately secured in the manner

Fig. 3.



of the common looped bandage, one loose end of the ligature being passed through the loop of the opposite side, before the knot was formed. By this measure, which is one of great convenience, there is much less disposition in the ligatures to slip, and there is no necessity of holding the knot either with the forceps, or in using the complicated *serre-nœud* during the process of tying. The knots were so arranged that two were on one side of the fissure, and the remaining two on the other, as seen in the cut.

in attendance at the time. Another female infant of the same parents, still born, had a fissure extending through the soft and hard palate of the lip. It may be worth while to observe, in connection with this peculiarity, that all the members of the family except the father seem endowed with an ordinary share of intelligence.

* In my first operation of this kind, I introduced the ligatures before the removal of the rounded edges of the fissure. But the threads offer some embarrassment to the knife, and I now pursue the plan as described in the text.

When the knots were prepared for tying, but before they were finally secured, Wenzel's cataract knife was passed from before backwards, through the attached sides of the palate, in the line designated by the cut, to enable the two halves of the velum to come together in the middle line, as well as to divide the insertion of the palate muscles so as to prevent their straining the sutured edges of the palate asunder. Considerable hemorrhage followed this division, arrested however in a few moments by gargling with an alum wash. The ligatures were then finally knotted, and the loose ends detached. The patient bore the operation with uncommon fortitude and self-control; her mouth was large and kept well opened, so as to afford great facility in the performance of the operation, which was completed, and the patient ready to be removed from the room in twenty-nine minutes from the commencement of the operation.

The usual course of treatment was pursued. The patient placed in bed with the face downwards, so as to let the blood and mucus which flowed for some hours be discharged without effort. A compress was applied below the chin, and a bandage passed round the head and jaw to keep the latter at rest. The patient not to communicate with any one except by signs or by writing; xxx gtt. tinct. opii was given by the mouth, and xx gtt. acet. opii in an ounce of mucilage to be given at the end of every four hours by enema to lull the patient, and keep down irritation. Nothing to be taken in the way of diet, for three days, except a little mucilage or barley water, and that only when urgently demanded.

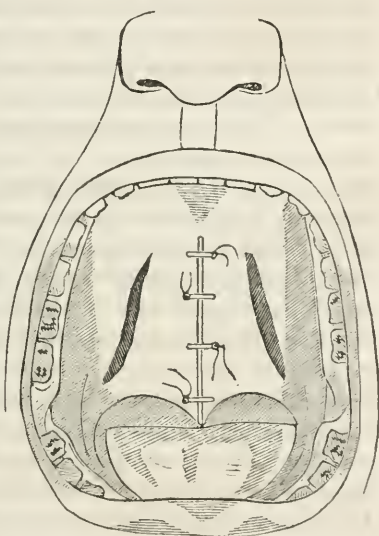
A small piece of ice to be left to dissolve in the mouth from time to time, to keep down the sensation of thirst.

Feb. 8th, morning.—Last night rested tolerably well; complains this morning of pains in the region of her throat and in her head; some troublesome cough has also supervened, she having been entirely free of it previous to the operation. Ten leeches directed to be applied to the throat, black drop enema to be continued.

Evening.—Cough and pain subsided to a great degree; quite easy during most of the day.

10th.—Feeling of much soreness in the fauces, without absolute pain. Cough has again become more troublesome so as to render very uncertain the success of the operation. A purgative enema with 30 gr. assafœtida, to be given. After its action, the black drop enema to be resumed.

Fig. 4.



11th.—Cough so considerable during the night as to disturb the patient's rest—a good deal of ropy mucus discharged from the fauces. To day removed the two upper ligatures. The lower one was removed on the fifth day, when it was found to have partially cut out. Union took place only for about quarter of an inch just above the middle of the fissure and near the apex of the uvula, leaving a small hole above, and a gaping opening below. Union had taken place throughout in the lateral incisions. When the tough mucus from the edges of the fissure was wiped away, the ununited parts were seen covered by weak grayish granulations. To stimulate and give strength to these a wash of infus. cincho. with sulph. cupri gradually increased in strength to be applied two or three times daily. At the end of three weeks the upper orifice had closed up by granulations. The lower opening had cicatrized at the edges without union, leaving the patient still with a fissure in the palate, though very considerably reduced in size, the union between the two sides of the uvula having been broken up. Six weeks from the time of the first operation, the parts having, it was believed, become sufficiently restored to their natural condition, the operation was repeated in order to close the remainder of the fissure. The edges were shaved off, the ligatures applied and knotted; but the parts, in consequence of the great original deficiency of the palate, were placed in an extreme degree of tension. To take off this tension, which seemed to forbid union by first intention, the lateral incisions were again made, though to a less extent than before. There was considerable irritability of the fauces, with a slight disposition to nausea, and the operation, though much less extensive than the first, occupied about three quarters of an hour. The after treatment was much the same as before, except that she was allowed to take chicken water in small quantities, four times in the 24 hours, and twice a day the edges of the fissures was touched with a solution of gr. x. sulph. zinc. in an ounce of rose water, applied with a camel's hair pencil, to give tone to the raw surfaces, and prevent the reaccumulation of the viscid mucus which appeared to have acted injuriously in the former operation. The plan answered well. The cough which supervened on the second day was much less troublesome than on the former occasion. On the removal of the ligatures complete union had taken place in the lower half of the wound (and in the lateral incisions), leaving a small oval opening just below the middle of the palate. The astringent wash was continued upon the sides of the opening, which was changed after a few days for a solution of argent. nitrati, gradually increased in strength from 3 up to 20 gr. to the ounce. The parts however cicatrized over, with little contraction of the orifice, leaving a rounded hole about a quarter of an inch in diameter. Suspending all applications for eight days, so as to allow irritation to subside, I removed the edges of this small opening with a club-foot knife, and introduced two looped ligatures, so as to cross each other opposite the middle of the opening; on tying these, the edges of the orifice, though somewhat puckered, were brought completely in contact. The needles were all entered in front with Physick's

forceps as before, and detached and brought out with the heels foremost through the opening, with a pair of minute ear polypus forceps. This was a delicate and somewhat difficult operation. Complete union was found to have occurred on the removal of the ligatures, except a small point in the centre the size of a duck shot, which closed in a few weeks under the use of a lunar caustic solution. The patient was ultimately discharged completely cured of one of the most extensive congenital fissures of the palate that I have ever witnessed; and without the least impairment of her general health. The velum was well shaped but tense. From her habit of speaking deep in the throat and through her mouth only, and from the rigidity of the palate, consequent upon the effusion of lymph in the line of incision and the places of puncture with the needles, the improvement in her articulation was at first hardly at all obvious. As the effused lymph of the cicatrices, which were almost of cartilaginous hardness, was removed, and the velum became soft and pliable, her speech gradually improved, and at the present time, though not perfectly free from the original peculiar *note*, improperly called nasal, it is such as to excite but little observation, and renders her capable of reading aloud with considerable distinctness.

Remarks.—These two cases of staphyloraphy will serve to illustrate the mode of curing this distressing deformity, in the moderate degree in which it usually presents itself, and in that state of extreme widening, which presents the greatest possible difficulty in the cure. Though there are many difficulties to encounter in the after treatment, that may render the operation fruitless, as the neglect on the part of the patient to observe absolute silence, the occurrence of paroxysms of coughing, sneezing, etc., yet when the patient is docile, and the simple plan above described is employed, it will not be found one of any peculiar difficulty, to any person accustomed to the performance of such as require some nicety of touch. I can readily conceive however, from the delicacy of the operation, and the length of time required to perform it, that great dexterity and skill on the part of the surgeon, and firm resolution on the part of the patient, will all be needed, as described by writers, when the complicated and cumbersome instruments frequently advised are employed, five of which were used by Graefe merely for tying the knot. The most difficult part of the operation is said by Roux to be the excision of the edges of the fissure. But this is dependent on the method in which it is done, and will especially be found the case, where the ligatures are first completely passed, the loops depressed in the throat, and the edges made raw with the long angular scissors, as practised by this surgeon. The leaden ligature of Dieffenbach, the simple long curved needle set in a handle used by many surgeons, the ingenious modifications even of the old *port-aiguille* by Messrs. Dupierris and Guyot, cannot be compared with the instruments I have described above, in respect

to the facility and rapidity with which the ligatures can be passed—in reality the only difficult part of the operation.

The artery forceps of Physick, which is not represented sufficiently curved in fig. 3, has also been successfully employed by Prof. Miitter in several cases of suture of the palate.

ART. VII.—*Spiders discharged from the Eye. Hysteric Monomania.* By
A. LOPEZ, M. D., Mobile, Ala.

I WAS requested on the 5th of February, 1840, to visit a young lady, from whose mother I received the following statement. The patient had left the city of Charleston, S. C. (at which place I then was), to visit a friend who resided in the country. On the night of the 29th January, while conversing in bed, she was sensible that some object had fallen from the ceiling of the apartment, upon her cheek, just below the inferior lid. This caused her to apply the hand briskly and forcibly in order to brush off, what she supposed to be some one of the many insects so common in country houses, upon which, the friend with whom she slept observed, that as the room was much infested with spiders, it was probable that the object which had fallen was one of them. In the course of the night she was awakened by a feeling of intense pain *in her left eye*, which continued at intervals until morning, when, upon examination, the eye was discovered to be highly *inflamed* and *lachrymose*. Ordinary domestic means were applied, and during the morning feeling an intense degree of itching and irritation, she rubbed the lids together upon the ball and removed *two fragments* which were readily recognised as the *dismembered parts of a spider*. Her alarm in consequence became very great, and was much heightened when the same thing was repeated in the afternoon. She left for home and arrived in Charleston on the 2d February. During the voyage her mind was much perturbed and under considerable excitement from the event, and when I paid my first visit on the 5th, the date mentioned in the early part of my statement, the following was her condition: the right eye unaffected; the *left*, turgid, inflamed and weeping; and there *had been removed from it that morning, a spider*, imbedded in a mucous covering. It was entire with the exception of two legs. The two preceding days before I had seen her *three others* had been removed and were now exhibited to me. I immediately submitted the eye to as close an examination as the irritable condition of the parts permitted, *without being enabled to discover the minutest portion of any foreign substance*. In order however to combat the pain and inflammation I ordered leeches, saline-antimonial medicines, and evaporating lotions. I thenceforward visited her daily until the 19th, and at *every visit, I removed either an entire or dismembered*

spider from the same eye. Before proceeding it will be well to mention that during the interval between the 5th and 19th, I invited to an examination of the case, Professors Geddings and Dickson, and Doctors Bellinger and Wurdeman. Dr. Dickson on one or two occasions also removed these objects from the patient's eye. I made, assisted by Prof. Geddings, the most minute scrutiny with a view of discovering, *first*, whether there could possibly exist a nidus within the orbit for these animals; *secondly*, whether a sac containing their ova was there concealed; and *thirdly*, if any communication between the eye and nose could account for their appearance. For these purposes, the superior and inferior palpebræ were everted with great care, traversed thoroughly with a blunt probe, and afterwards I threw injections around the internal lining, but all to no avail. The anterior and posterior nares were closely examined by strong light, both of the sun and candle, yet we could not perceive the slightest trace of any means by which either ova, insect or nidus could be retained.

The sensations always precursory to their removal were, a sense of burning in the ball, a pricking of the superior lid, proceeding more or less severely around the orbit, until it assumed a fixed pain within the lower lid, upon the eversion of which by myself, if present, or by her mother, in my absence, the spider, always dead, would be discovered enshrouded in its mucous bed, and removed by means of the finger or probe. I now resume the order of their discharge. From the 19th they were removed *from both eyes*, and so continued until the 23d, when again they became confined to the left, and afterwards *from each eye alternately* until the 5th of March, when a truce was had until the 10th. During this interval, the eyes resumed their normal condition, but again on the 10th the inflammation was renewed and the discharge of spiders recommenced, the *right eye* being now chiefly the depository. Up to the date, during which time my visits were unremittingly made, none other than general observations were kept, but, the spider-making power appearing so inexhaustible, a more circumstantial diary was thought necessary.

March 10th. Two spiders.

11th. Two. Pain over right orbital region passing gradually over the frontal sinus to the left. Sharp pricking pains upon pressure.

12th. Previous to my visit, one from the left eye, *which was much less inflamed than the right.*

13th. Eyes much improved in appearance. One discharged since my last visit, and another just previous to my departure this morning. As this discharge served greatly to perplex the views at which I shall arrive before I conclude this paper, it may not be irrelevant to notice it. I have mentioned the scrupulousness with which the eye and its appendages were examined in order to elicit, if possible, any clew by which to unravel this enigma, and the fruitlessness of those exertions. It appears then, that on the day of this visit (the 13th) a spider was removed before my arrival. A servant was despatched for it to a neighbour's whither it had been sent for exa-

mination. Some time elapsed before her return, during which time I sat in such a relative position to the patient as to preclude all possibility of deception, and I had this day, as was my wont at every visit, made a careful examination of the eye without discovering a vestige of any kind of substance. Upon the return of the servant I arose to depart, at which moment the patient complained of pain, and in a few seconds, by turning down the lower lid I removed another spider.

15th. Eyes extremely healthy and clear. On the 13th just after my visit, the mother removed *three* spiders, two entire and one broken; also a *putrid substance*, the precise nature of which I could not define. No others discharged to date.

17th. None since 15th. Right eye more affected; upper lid much irritated and swollen. Left eye healthy.

18th. Right eye still inflamed—discharged a *portion of web* from the inner canthus.

19th. Eyes the same—*another piece of web*.

20th. Eyes perfectly natural. After my departure on the 19th, there was removed a *sacculum containing ova*.

27th. None since 20th until to-day. The left eye being inflamed and painful she was advised by a friend to insert an eye stone, which at its exit protruded *one spider of the long-legged kind, entire*.

April 6th. None since 27th ultimo. Eyes healthy and generally improved in their appearance.

13th. None since 6th. Eyes healthy; has used them since my last visit, in sewing and reading without inconvenience.

May 14th. None since 13th of April. Eyes healthy until a few days past; to-day they are weak, lachrymose, and slightly injected. They however improved under remedial measures, and the case terminated.

The total number of spiders removed from commencement were between forty and fifty. During the progress of this very singular case, the treatment was regulated according to the greater or less degree of local or general disturbance. The patient was restored to good health, and continued so uninterruptedly to the date of my leaving Carolina in November, 1840.

I have presented the facts as succinctly as possible, and here perhaps, in the opinion of many, it should rest; but other considerations may offer themselves to warrant a further notice. They are these: 1st, a case so anomalous and of so unusual occurrence, could not well exist, without necessarily exciting an intense degree of public curiosity, and in fact, becoming, as it did, a subject of general notoriety and discussion in the various public presses of the union, all of which however were strictly unprofessional, as this is the first entire and correct statement yet made on the subject by myself. 2dly, the character and respectability of the patient as well as her mother, being familiarly known to me for many years, preclude the remotest suspicion of any desire to impose, or to acquire a spurious notoriety on the part

of the daughter, or of the countenance of fraud by the mother; 3dly, the pathological history of the patient, which I will proceed to give, and which has induced me to distinguish this case as one unequivocally of *Hysteric Monomania*.

In adopting this rationale I am of opinion that I conform more strictly to the category within whose scope are embraced so many equally singular and otherwise inexplicable perversions of the nervous system, and under the influence of which the most remarkable anomalies have been produced. I, moreover, am disposed to regard it rather as a melancholy, though interesting feature of *disease*, than a subject of levity to be classed among the nine-day wonders of everyday report. The father of the patient was a man of peculiarly nervous temperament and excitability. The patient from her childhood exhibited a due inheritance of that temperament, which became more strongly developed at that age, which, in females so strikingly calls into action the consentaneous play of every nervous affinity. The establishment of the catamenial period, corresponded with this complication. Her natural disposition was variable, at times cheerful, sometimes gloomy, but more commonly timid and reserved.

In 1839 I attended her for an attack of chorea, during which many peculiarities were observable, and a few months preceding the invasion of the case now under consideration, she was under my care for a neuralgic affection, terminating in a tremulousness of her upper extremities corresponding with what Good in his *Neurotica* recognizes as "*synclonus tremor*," except that here the morbid action is exhibited on attempt at voluntary motion, whereas in this case it was independent of such causes. In the presence of these facts, to wit, the entire confidence entertained not only by myself but all others, in the strict veracity and irreproachable integrity of the parties; the predisposing and salient qualities in the idiosyncrasy of the patient, and the indisputable, though too frequently unexplained effects resulting from a morbid condition of the nervous system,—effects impressing their astounding influences not only upon the physical but also upon the psychological nature of man,—can we, without becoming amenable to the charge of an indifference incompatible with the proper spirit of inquiry which is so peculiarly the province of medical philosophy, refrain from devoting a little time to the investigation of this case.

Previously to any considerations touching the mental agency involved in this history, I will refer in abstract to a few instances, which if not even in strict analogy, are nevertheless not devoid of interest, either as objects of science or curiosity.

1. In the "*Memoires de la Société Médicale*," (Année 5me. p. 181,) M. Silvy relates a case in which an immense number of pins and needles were swallowed, and their exit from parts remarkably singular. These were doubtless swallowed under an erratic condition of the mind. 2. In the *Med. Chir. Rev.* vol. vii, No. 22, Oct. 1825, p. 559, will be found the extraor-

dinary "*Copenhagen Needle Case*," in which it is stated that a young woman from Aug. 1807 to Dec. 1823, discharged from nearly every part of her body 400 needles. This case is reported conjointly by Professor Heckoldt and Dr. Otto. In 1825 she was living and in good health in Frederick's Hospital, at Copenhagen. No account is given by which we are to infer that so immense an amount of needles were accidentally introduced, and the presumption is legitimate that they were either swallowed or thrust in under a state of mind beyond the patient's control. These are instances which would seem to owe their existence to influences such as constitute the pathological features of the case under review. They are only a few from the many with which medical history abounds. Nor are these records silent with regard to *insects* and *larvæ* being discharged from the human body, and from places so unusual as to excite surprise; and while I refer to a few of the most prominent, I do not conceive their characters parallel with my case, because in the former there are palpable grounds for explanation, whereas, in the latter there is one of two modes alone, by which to obtain a solution,—either gross fraud and premeditated concert, or a morbid condition dependent upon extreme exaltation of the nervous system. I will, nevertheless, briefly condense a few of the cases referred to.

In 1828, M. Cloquet reported to the Philomathic Society of Paris, the case of a rag-gatherer who in a state of intoxication laid himself down to sleep near some dead horses. He slept for twenty-four hours. On awakening he felt as if he were swelled out with much unusual pain. On his return home, a number of blisters arose about his head, and *worms crawled out of his nose and ears, and other natural openings of his body*. He went to the Hospital St. Louis. More came from his head when the swellings were lanced. His skin produced them every instant. The nurse collected three plates full. The conjecture was that the flies from the dead horses laid their eggs in the pores of the man's skin during sleep, as well as in the natural openings of his body, and that warmth hatched the eggs which produced the worms.—*Am. Journ. Med. Sci.*, No. 3, May 1828, p. 228.

Animals are frequently found in situations of the human body, for whose location it would be difficult to account. The doctrines of equivocal and spontaneous generation have been taxed through all the bearings, and still leave us as much benighted as ever. I will merely refer to the several authorities, and give their cases in brief. *Worms in active motion under the conjunctiva*. Blot, of Martinique, removed by incision two from a similar position in the eye of a negress. They were thread shaped, 38 millimetres long, with a black protuberance adapted for suction. The worm lay on the outside of the eye, and sometimes turned around a portion of the cornea, causing stinging pains *and nervous symptoms from fear*. The patient, an African, was unable to give any account of herself or the liability of her country people to this disease.

Bajou, of Cayenne, in 1768, observed a worm in serpentine motion in

the eye of a negress; upon incision being made it removed, but was secured by forceps and dislodged. He saw another case in 1771. (*Am. Journ. Med. Sci.*, May 1840, p. 194.) The *Lond. Med. Gaz.* Aug. 1833, records a case of a little girl, ætat. six, under whose conjunctiva and resting upon the sclerotica there was found a *cysticercus cellulosa* perfect in all its parts.—See *Am. Journ. Med. Sci.*, May 1840, p. 194.

Some years since the *Baltimore Sun* related the case of an insect resembling a snake in the eye of a horse. It grew in two months from a half inch to 3½ or four inches in length. It moved with great rapidity and incessantly.

Dr. Yule, in the *Edin. Philos. Journ.*, July 1825, p. 72, records cases of insects in the human stomach:—One, of a countryman, from whose stomach, after several weeks of intense suffering, there was ejected a large hairy caterpillar, supposed to be of the common Dragon fly. The opinion is that it must have lived several weeks in the stomach and grown to its full size.

Dr. Reeve mentions the fact of larvæ inhabiting the human stomach. He cites a case, where the larvæ of the *musca domestica* or common house fly, were voided by a girl.—*New England Med. and Surg. Journ.*, Jan. 1821.

Kirby and Spence relate a case where several beetles were vomited by a boy.

In the *Am. Journ. Med. Sci.* No. xlii, Feb. 1838, p. 473, will be found a case of a beetle discharged from the urinary bladder.

It now remains to attempt some explanation as to the means by which the spiders obtained their "local habitation" in the eyes of my patient. As might be supposed, conjectures were not idle, and the reasons assigned assumed their complexion in proportion as the credulity or scepticism of individuals prevailed. Those who yielded to the first, of course resorted to the intervention of miraculous agency, while the latter class believed it to be an artful endeavour to impose upon the community. I need not reiterate how unjust and unphilosophical such suspicions must appear under the historical features of this case. The only attempt to explain it by a natural and direct probable cause, was published by a Mr. Meddler, of Erie, Pennsylvania. In a letter addressed to the postmaster of Charleston, he gives the natural history and habits of the wood-spider, which, he says, unlike the rest of that class of insects who propagate their young from eggs, "*bring them forth in perfect form,*" and the female carries them about, attached to the extremity of the tail. Mr. Meddler thinks, therefore, that it was one of this class which fell upon the young lady's cheek, and that the effort to brush it off, separated the young from the point of attachment, upon which they took different directions, some into the eyes and others into the nostrils, whence they "*could easily pass*" to the eyes, and become killed there by the touch. He also thinks that the spiders discharged from the eyes "*were at different stages of maturity and not of different species.*"

Now, Mr. Meddler errs in every particular. The wood-spider "bring forth their young in perfect form." We have shown that one of the articles removed on the 20th March, was a *sacculum containing ova*. Again, his idea of their passage into the eye at the moment of accident is disproved, because I have stated the extreme care with which I repeatedly examined that organ and all its appendages; and *surely if the extraordinary number discharged from first to last had been lodged therein, they could not have escaped observation*. They were not in the nostril, for I have also said that due exploration was there made: moreover, the communication between the nose and eyes *even in a healthy condition*, could not possibly have admitted the passage of bodies as large as many of these spiders were, much less under the high state of inflammation and swelling in which they were almost constantly found. Lastly; Mr. Meddler, deriving his history of the case solely from newspaper reports, originating with persons unacquainted with its character and progress, errs in thinking that the spiders were only "at different stages of maturity," and not of different species. The spiders removed from the eye were subjected to close microscopic examination by myself assisted by several professional gentlemen accustomed to scientific investigations, among whom was the Rev. Dr. Bachman, whose reputation precludes all doubt, and we discovered at least *three different species*, distinguished by the anatomical classification of *Latreille, Walckenaer* and *Hentz*. But even supposing them to have been lodged "in perfect form," the fact that they were subjected to a residence in depraved secretions unfit to preserve the lives of insects, forbids the belief that they could have reached the different stages of size and maturity which they presented, much less so then could we suppose them to have been hatched by incubation either in the eyes or nostrils. I am then constrained to discard from my mind the presumption that they were lodged and perfected *previously to their discharge*, or that they were placed there by the patient *in a healthy condition of feeling* and with a desire to impose.

The only suggestion left for my adoption is this: That from all the preceding history of my patient, there existed a want of nervous integrity, so operating upon the mind as to produce the form of disease which I have distinguished in my text as *Hysteria Monomania*; and I am induced to think that the various types of mental irregularities, which an unbalanced nervous system is so familiarly known to produce, sustain the belief. It is needless on this occasion to investigate the diversified operations of the human mind in its physical and pathological relations, or to refer to the multiform phases it is capable of assuming under the excitement to which it is subjected by the agents which are perpetually at work upon its impressionable nature; suffice it to say, that the history of the different forms of insanity, from the highest degree of concentrated fury to the most subtle shade of the mind's day-dream, present arguments and examples sufficiently numerous to render my view of this case at least plausible.

At the incipency of the case, I do not for an instant doubt the presence of those fragments of spiders, and perhaps one or two entire, but my opinion is, that subsequently, terror, superinduced upon the idiosyncrasy described, dethroned the judgment; hallucination usurped its seat; a morbid concatenation was excited, and the patient under the control of this influence was urged irresistibly to introduce them from day to day, until the morbid series was exhausted. I cannot express myself more forcibly than by adopting the language of M. Ollivier addressed to the court at Paris, in behalf of a young girl arraigned for the murder of an infant. She confessed to *have given it ten pins to swallow from time to time*. M. Ollivier said, "he was inclined to attribute the present act to *one of those unaccountable perverse impulses which are not unfrequent in certain females, more especially about their menstrual periods*." (*Lancette Francaise*, 1839). M. Dupuytren says, "I have seen at the Hotel Dieu, a great number of women and children, who *had been affected with the strange mania of swallowing pins and needles*." He then gives the case in detail, and concludes by saying, "on examining the body after death, *several hundred pins and needles* were found scattered through the viscera, muscles, cellular substance, &c."

I will, lastly, merely refer to that extraordinary form of insanity described in the *Journal de Progres*, for 1828, under the title of *Periodical Vinomania*. It is reported by M. Pierquin who says, "The disorder commenced fifteen years ago in the shape of an *irresistible impulse* to swallow wine day and night without the possibility of satiety. The *paroxysms last from two to three months*, with an interval of equal duration, when it returns again *without any prodrome* that might indicate its approach."

I here close this case, extraordinary in its character under any aspect, and if my view of it be a correct one, it will afford another to the many which are to be found in nearly every work professing to analyze the yet inscrutable character of the human mind.

MOBILE, Ala., April 26, 1843.

N. B. The spiders are in my possession, and were exhibited with a statement to the Medical Society of this city.

ART. VIII.—*Carcinomatous Tumour connected with the Stomach simulating Aneurism—Disease of the Aortic Valves, &c.—Death, Autopsy, with Remarks.* By GEORGE SPACKMAN, M.D.

I was requested, on the 13th of December, 1842, to visit Mrs. L., aged 52 years, of middle stature, with black hair and eyes, and rather corpulent. She had been in bad health for many years, though seldom confined to the

house. On the left side of the upper lip was an ulcer the size of a penny, of an indolent character, which had been there fifteen years, not increasing much until the last year. The patient informed me that she had been treated for disease of the liver, and sometimes for dyspepsia. She now complained of want of sleep and constant vomiting, with no pain. In this state she had been for ten days previous to my seeing her: at that time the pulse was frequent but feeble; her tongue clean and moist; her bowels constipated; urine scanty and thirst constant, with an excessive secretion of mucus, resembling ptyalism, though no mercurial fœtor could be detected, and the gums were not swollen. Pressure on the epigastric region gave no pain, the countenance of the patient depicted great anxiety, and her skin was of a dull white hue. I directed sinapisms to the region of the stomach, and a solution of muriate of morphia, one grain to the ounce of water, a teaspoonful every two hours until sleep was induced; gum water and sago being given as nourishment.

14th, 9 A. M. Patient slept well all night; the vomiting has ceased; some sago has been taken; the bowels not having been moved for three days, I ordered calomel gr. iij. pil. iv, one every hour, to be followed by small doses of magnesia usta, until they were moved.

15th, 10 P. M. Bowels moved three times; vomiting returned; pulse 80, feeble; skin rather hot; patient complains of pain in the head, back, and left leg; no pain in the stomach; pressure on the spinous processes of lumbar and dorsal vertebræ gave some pain. I ordered a large sinapism to be applied down the spine and a spice plaster to the epigastrium, directing the patient to take lime water and milk, a tablespoonful of each every hour, chipped ice, iced gum water, and morphia solution at night.

16th, 9 A. M. Stomach quiet; sleeps middling well; pain in the back and leg better; no headache; pulse feeble; 78 in the minute. Directed essence of beef, and sago for her diet.

17th. She has retained all she took yesterday, and is sitting up out of bed; thinks she is much better; looks better; no medicine appears to be required; sago and beef-tea continued; tea and crackers.

18th. Did not see her till evening; she said the beef-tea did not agree with her as well as heretofore, that she had vomited several times; was free from pain, and slept none. Prescribed tinct. lupulinæ twenty drops; tinct. hyoscyami 40 drops every two hours; oysters, soft part; cream with milk and lime water; chicken water as a nourishment, and an enema to open the bowels.

19th, 4 P. M. Patient better; stomach settled; bowels opened by the enema; she slept tolerably well, but complains of being very weak, and of a trembling and moving in the stomach like worms, with a throbbing sensation in that organ; she has some palpitation of the heart; I made no alteration in the treatment, except that I directed the use of a teaspoonful of the solution of muriate of morphia at bedtime, to be repeated every three hours until she slept.

20th. She continues about the same.

21st. Vomiting returned; pain in the back and leg; none in the stomach; no fever; pulse as before. All the remedies used thus far have produced no effect. Directed nit. argent. gr. iss., muc. gum arab. ʒiss; aq. ʒij; a teaspoonful every two hours; blister over the stomach. Saw her again at 11 at night; and she was no better. I directed an anodyne enema; $\frac{1}{4}$ drop of creasote every hour.

22d, 9 P. M. No better; vomits every thing; complains of no pain in the stomach; pulse 90 and feeble, has had no sleep and is thirsty. Ordered to take chipped ice and soda powders; 11 at night is no better.

23d. Dr. C. W. Pennock was called in consultation; he made a minute examination of all the cavities and organs, and inquired into the history and symptoms of the case, and furnished me with the following note:—"The skin of an ash hue, dry and harsh; on the right cheek near the angle of the mouth is ulcerated from one to four lines in depth, with uneven jagged edges, its surface presenting pale, reddish-gray granulations; countenance anxious; complains of no pain, but some uneasiness is experienced upon pressure being made upon the intervertebral space of the middle dorsal vertebræ; slight œdema of the legs. *Thorax* is well developed; the percussion throughout resonant, and beneath the left clavicle it is preternaturally so; respiration normal, with the exception of the upper third of the left lung, where the vesicular murmur is very feeble. *Heart* by percussion is of natural size, the rhythm of movement natural, the sounds at the apex are normal, but a slight saw sound is heard over the aortic valves.

Abdomen. The *liver* enlarged, extending as indicated by percussion two inches below the right hypochondrium, and the left lobe occupies the upper portion of the epigastric region; immediately below is a hard mass four by four inches, extending to the umbilicus. A sense of oppression or suffocation is induced by pressure upon this mass; a strong impulse over the course of the aorta synchronous with the pulsation at the wrist exists, but no abnormal murmur attends this impulse.

24th, 10 A. M. Dr. C. W. Pennock in consultation—another minute examination was made. I am indebted to my friend Dr. Pennock for the following note:—"The abdominal tumour is much less than yesterday. It is now confined to the epigastric region; the impulse or upheaving movement over the central portion of the tumour is very forcible, but it diminishes laterally, and is not felt on its borders; in a word, there is no expansive movement. The diagnosis presented is not an aneurismal tumour, but a scirrhus mass connected with the pyloric extremity of the stomach, together with an enlargement of the left lobe of the liver; the aortic valves of the heart cartilaginous, with probably some ossific deposit." Patient appeared much better; slept well; had no vomiting; had taken some beef-tea and sago; pulse weak, not exceeding 80 in a minute; countenance and intellect good; she attributed her improvement to quack medicines; Stuckert's nervous

cordial, which she took without our knowledge. To test the efficacy of this medicine, we allowed her to continue it, stopping all other treatment, and left the case. I did not see her again until the 28th, when I was sent for at eleven in the evening. She had been vomiting blood and a green pus-like matter, since eight o'clock, and had ejected about a pint and a half. She had fainted several times; had no pain; a clear mind; a cool skin, and a frequent pulse. As there was no vomiting on my arrival, stimulants of brandy and ammonia with sinapisms over the stomach and extremities were ordered, and I directed in case vomiting returned, acetate plumbi gr. v. every hour, nourishment, soup, &c. At 3 A. M. of the 29th, vomiting returned with violence, a large quantity of blood was thrown up, she fainted and died.

Autopsy 36 hours after death, present Drs. C. W. Pennock, W. Brincklé, and Spackman.

Moderate emaciation; skin, as in life of an earthy hue. Some serous infiltration of the ankles and legs.

Chest. The lungs upon opening the thoracic cavities were found to be natural, with the exception of the upper lobe of the left, which was emphysematous, the air vesicles being much enlarged. The *heart* coincided in size with that indicated by percussion of the thoracic parietes in life; the walls of the left ventricle were slightly thickened; all the valves natural, with the exception of the semilunar valves of the aorta, which were cartilaginous with some spiculæ of bone near their margins.

Abdomen. Opening the cavity of the abdomen, the *liver* was found to be much enlarged, especially its left lobe, which occupied the upper third of the epigastric region; immediately beneath and behind the left lobe was a rounded, irregular, lobulated mass of 4 by 4 inches, lying upon, and immediately in front of the abdominal aorta, but not connected with it. This abnormal growth commenced at the pyloric orifice of the stomach, occupying one-half of the lesser curvature of the stomach, and was strongly attached and united to the liver at the great portal sinus. Upon cutting into the tumour it was found to be carcinomatous. The whole of the internal structure was dyed with extravasated blood, which when washed off, showed that internally the surface of the tumour was of a slight bluish-white colour, very firm, hard, striated, fibrous, and creaked when cut by the scalpel. Interspersed through this structure, were some ten or twelve masses of the size of filberts, filled with a brain-like substance, of the consistence and colour of thick cream. The tumour, by ulcerative absorption, had *eroded a large cavity in the left lobe* of the liver, from which it could be only separated by the scalpel, and was found to have penetrated into the large branches of the vena portarum, and that these vessels had emptied themselves through the softened encephaloid portions of the tumour into the stomach. The liver around the tumour presented the appearance of the scirrhus transformation, and was generally cirrhotic. The stomach contained a pint of clotted blood, the mucous coat was of a slate colour, and generally thickened, mammelous.

Around the pyloric opening is a carcinomatous band, half an inch in thickness, and nearly two inches broad. This abnormal formation appears to be a transformation of the cellular and muscular coats, and was in intimate connection with the tumour previously described.

Some small hard rounded masses of a light blue colour were observed in the *spleen* presenting a striated appearance when cut into. The *mesenteric glands* were also hardened, and presented a similar appearance to the masses in the spleen.

The *kidneys* were of a fawn colour and granulated; some of the *tubuli uriniferi* were obliterated. *Intestines*, and the other viscera not examined.

REMARKS.—This case presents several points of interest. In the first place, the fact of the existence of a carcinomatous formation of the size of that which has been described, *unattended by pain*, is very surprising, and shows that pain is not a necessary or invariable attendant on carcinoma. Again, *the existence of the cephaloid*, brain-like masses, in the midst of the scirrhus mass, is extremely interesting, as it conclusively shows, that the two affections or lesions, depend on the same pathological conditions, in different stages of development. The immediate cause of death, by hemorrhage into the stomach from the vessels of the liver, through the softened cephaloid portions, was very remarkable.

But the point of greatest interest is that which points out the means of differential diagnosis of scirrhus or hardened tumours, accompanied with pulsation, from those tumours dependent upon aneurism. In this case, a tumour lying in contact with the abdominal aorta, received the impulsive movement of that vessel; but this pulsative movement was only felt in a small part of the tumour; it was felt forcibly over the central portions, but not towards the sides of the tumour; it was *not an expansive impulse*, and it was for the want of this latter characteristic, that the diagnosis, which was ultimately verified, was founded.

ART. IX.—*Gun-shot Wound. Extensive laceration of the Brain, without loss of consciousness, or impairment of mind.* By J. H. THOMPSON, M. D. of Salem, N. J.

Monday, Feb. 13th, 1843. Mr. Wm. L. Johnson, ætat. 22, in attempting to shoot a bullock on his father's farm, which is about two miles from this town, was wounded by the bursting of the gun, a fragment of which struck him in the median line at the root of the nose. I saw him in about twenty-five minutes after the occurrence. The hemorrhage, which was said to have been profuse, had nearly ceased. At the moment of the accident he was prevented from falling by a person near him. He then walked into the

house, a distance of about 40 yards. I found him, although suffering agonizing pain, in the full possession of his mental faculties, which he had not indeed for a moment lost. Considerable tumefaction had occurred in the injured parts. The wound resulting from the accident commenced a little above the transverse suture, and extended directly down the middle of the nose. It was three quarters of an inch in length, by one quarter in breadth. The nasal bones were completely demolished, the frontal sinuses were laid open, and the upper turbinated bone was torn off. This much of the injury could be distinctly seen. The missile after entering had taken an oblique direction behind the right eye. Its ultimate course could not be accurately traced, owing to the extreme sensibility of the wounded parts; nor indeed was it deemed proper to persevere in the attempt, since it soon became evident that the foreign body had penetrated so deeply as to render it highly probable, that more injury than benefit would result from the search. The right eye protruded more than half an inch beyond its ordinary level. This protrusion was an immediate consequence of the accident, and therefore led to the supposition that the optic nerve was destroyed. The patient referred all his pain to the right eye. The sensibility of this part was so acute, that the slightest touch—even a drop of water falling upon it, brought on spasmodic action of the whole muscular system, and rendered the dressing of the wound a task of great difficulty. Dr. Swing, an experienced practitioner, residing at Sharpstown in this county, was called in consultation with me, and continued to attend the case until its termination. Several loose fragments of bone were removed from the wound, and cold water dressings were applied. It is not necessary to enter further into the treatment than to say, that the strictest antiphlogistic plan was adopted and rigidly pursued. During the first and part of the second day, this amiable and unfortunate young gentleman retained the perfect possession of his senses. He answered all questions readily and with entire consistency—knew his friends—called repeatedly for different members of his family—made use of the most tender and endearing expressions towards them—in short, his mental faculties appeared to be unimpaired. There was no paralysis manifested until a few hours before death, when the *left arm* became motionless. Delirium came on, on Tuesday afternoon, and continued with short intervals until the termination of the case. Suppuration was speedily established; several considerable fragments presented themselves, and were removed. At the second dressing, a small quantity of cerebral substance issued from the wound. Death occurred on Friday morning, four days after the reception of the injury. Permission for a post-mortem examination was granted, on condition that we would make no incisions, nor in any way disfigure the body. We were therefore limited to a mere inspection of the wound. This is to be regretted, since it would have been interesting to have ascertained with precision, the *exact* nature and extent of the injury which had been inflicted. Tumefaction having subsided, the wound now presented a very different ap-

pearance. It measured one inch and an half in length, and an inch in breadth. A fissure commencing a little to the right of the median line, extended perpendicularly about two inches up the os frontis. As before mentioned, the frontal sinuses were opened; two or three considerable fragments of the internal table of the os frontis were depressed. The wound was filled with the softened substance of the brain, and with pieces of bone. As well as could be ascertained by the introduction of a finger, all the bones entering into the composition of the orbit, with the exception perhaps, of those forming the anterior part of the floor, were broken up. The right eye was completely torn loose from all its attachments to the posterior part of the orbit. Through a large opening formed by the fracture of the orbital plates of the sphenoid and os frontis, the finger could be passed into the skull. As far as it could be reached in this way, the brain was in a pulpy condition. No foreign body could be detected. A probe, however, at length made it apparent. It proved to be the whole breech-pin of the gun. The large end, or that part which is screwed into the barrel, was over or upon the petrous portion of the temporal bone, the small end was near the opening which its passage had made in the bones of the orbit. The weight of this piece of iron (which is now in my possession) is two ounces; it is two inches and three quarters in length. Its extraction was attended with considerable difficulty. It could not in fact be removed until we had taken away, with strong forceps, the depressed portions of the os frontis.

Here was a most extensive laceration of the brain from a foreign body which remained imbedded in it, large fragments of bone were depressed, and in all probability spiculæ were driven into the cerebrum, yet none of the ordinary signs of such an injury were present. There was no loss of consciousness—no symptoms of compression—no paralysis until a few hours before death,—and until delirium came on as a consequence of inflammation of the brain, the operations of the mind were unimpaired. It is presumed that in so dreadful an injury as this, the case would necessarily be considered hopeless, although Larrey, Dupuytren, and indeed all surgeons relate instances of recovery after more or less extensive injury of the brain. There are upon record at least two examples of wounds from precisely the same cause as the one which came under my observation. The first is related by Dr. Rogers, (*Vide Am. Journal of Med. Sci.*, for 1828. The account is extracted from *Med. Chirurg. Trans.*) In this case the breech-pin of the gun remained in the left hemisphere of the brain for 27 days. The patient recovered with the loss of the sight of the left eye, and with his mental faculties unimpaired. In the second case both hemispheres were wounded to the depth of an inch and an half by the breech-pin of a gun, which struck the subject of the injury in the middle line of the frontal bone. (*Vide Am. Journal of Med. Sci.*, for 1830, where the account is taken from the *Edinburgh Medical and Surgical Journal.*) In this case also, the patient perfectly recovered “without the slightest alteration in mental power.”

ART. X.—*Sphacelation of the integuments of the Male Organs of Generation, successfully treated.* By W. L. WHARTON, M.D., Surgeon, U. S. Army.

JAMES WALLACE, aged 31, carpenter by trade, temperate man, solicited my assistance at "Fort Gibson," Ark., in August, 1840. Has been working amongst the "Cherokees" for the last few months, and the previous week, has had connection with a "squaw" during her period of menstruation, neglecting the necessary precaution of ablution.

I found on examination complete phimosis, total obstruction of the passage of urine, great distension of the cellular structure of the penis, and the scrotum enlarged to a degree as almost to prevent his walking. This condition has existed three days. Failing in the first 12 hours to remove the phimosis by ordinary means, I had resort to a division in part, of the prepuce, at the same time relieving the distended scrotum by puncturing.

The subsequent treatment proving ineffectual in checking the irritation, the progress of the case terminated in a few days in sphacelation of *parts* of the prepuce, glans penis, cellular structure of the penis, (with an opening into the *urethra*, or its upper surface, about one inch in rear of the glans, through which the *urine* freely passed,) and of the entire scrotum, followed almost immediately by sphacelation of the integuments of the right *inguinal* region.

As may be imagined, the horrible appearance of the patient was enhanced by the quantity of *maggots* attacking the sphacelated parts.

Doubtful at first of the success of any treatment which might be adopted for the restoration of the parts, I had the gratification to perceive the degree of irritation thus far, was sustained by the patient without much inconvenience, affording, at least, assurance of his strength of constitution.

Premising the treatment at this juncture with an aperient to remove costiveness, my next object was to restore as speedily as possible the urine to its natural passage. This I happily attained in a reasonable time, by a catheter, of a size that, whilst its introduction could be readily effected, its permanency as long as required, did not cause irritation or inconvenience, aided of course by local applications to the orifice in the *urethra*.

Glad to discover at this stage, that the parts in the vicinity of the disease were assuming a healthy condition, my attention was directed to the constitutional treatment of the patient, my principal reliance being *opium*, which though occasionally exhibited at the commencement, was now steadily administered in increased quantities, with the addition of more nutritious diet, and occasionally wine. This treatment of the case, though protracted about five weeks, was eventually successful, resulting in restoration of part to the inguinal region, and covering to the testes, with loss of portions of the prepuce, glans penis, and cellular structure of the penis.

Though unconnected with the case, I will allude to the fact, that no portion of the profession have a greater field for the treatment of ulcers, than those belonging to the "military" and "naval service." This, as readily appears, arises from the materiel *in part* constituting the ordinary "soldier and seaman." From much attention to the treatment of ulcers, more especially those of the lower extremities, I have found nothing so materially retard their cure, as the *hairs* on, and about them. I could mention many cases, in which after untiring efforts to heal an ulcer, the simple removal of the hairs *matted* on the surface thereof, has been followed by a speedy cure.

A late distinguished "surgeon," of the "United States Navy," employed for the cure of the inert ulcer, particularly of the lower extremities, an ordinary domestic poultice, rendered stimulating by the addition of some spirituous liquor.

FORT LEAVENWORTH, Mo., Nov. 23, 1842.

ART. XI.—*Poisoning with Lead.* By A. B. SHIPMAN, M.D. of Cortlandville, N. Y.

ON the night of the 8th January, 1842, I was called to the village of M'Laen, Tompkins Co., to consult with Drs. Hall and Chapman, in relation to some cases of poisoning with lead in the family of Mr. Horace Baker.

The history of the cases, as given by the physicians and family, is as follows: about six weeks previously some new cider was poured into a wash tub which had been newly painted with white lead and linseed oil, inside and out, and the family, consisting of the man, his wife, three or four children from the ages of six to two years, and a hired man began drinking it. The cider was drunk at meals, the most of it by Baker and his hired man, and the least by Mrs. B. and children. The use of it was persevered in for nearly four weeks. The family remarked that after a few days the cider had a smart pungent flavour, then became dead and flat, and after a few days more became more lively, but rather hard. The first effects were perceived in the children, particularly a small boy who had taken quite liberally of it, and began about two weeks after first commencing its use. His mother perceived that his gait was awkward and that he frequently tumbled down in crossing the floor, and that he staggered and complained that it hurt him to walk, and that his feet pained him, especially the bottoms of them. Soon the other children complained in a similar manner; they also complained of feeling sick at the stomach; cutaneous eruptions made their appearance on the legs, arms and face of a vesicular character.

The next taken was Baker, then his man, and next Mrs. Baker; as their symptoms were nearly alike, I shall describe them in common. The first symptom was slight nausea which continued several days, with a load at the pit of the stomach, then a soreness and tenderness of the soles of the feet, when first getting out of bed in the morning, so much so as to be unable to walk without first rubbing them, and then there were pains in the limbs which they supposed were rheumatic; cutaneous eruptions also made their appearance. The soreness in the soles of the feet disappeared in the course of the day, after taking exercise and getting warm. The next symptom was severe colic, pains in the bowels which took place several days subsequent to the affection of the feet and legs, and from four to five weeks after first commencing the use of the cider. Being now satisfied that the cider caused the difficulty, its use was abandoned and a physician called who treated them with bleeding, cathartics and anodynes. The symptoms were obstinate, and continued so with little abatement for four weeks. The bowels were obstinately costive, tongue dry, with a dark streak in the centre; abdominal muscles retracted and rigid; anorexia, with little fever and scarcely any disturbance of the circulation. Mrs. Baker soon recovered, not having taken much of the cider, as did also the children. But Baker and Ladd his hired man were a long time in getting well, and even at this time

are troubled with colic, and pains in the soles of the feet, with cutaneous eruptions. Venesection and anodynes with cathartics of sal. epsom and ol. ricini constituted the treatment. Alkalies and mucilages were also freely used. A hired girl who lived in the family and who did not use any of the cider, was the only one who escaped a fit of sickness.

The pain and soreness in the soles of the feet were peculiar, and were the first and prominent symptom in every case, and the cutaneous eruptions were also peculiar. The above is an example of the slow and gradual introduction of lead into the system, and its effects were in proportion to the quantity imbibed.

I fear that acetate of lead is not used by medical men as an internal remedy in hemorrhages and other complaints, where it is recommended in books, with that caution which the nature of the article requires. By many it is a kind of cure-all for hemorrhages of every kind, diarrhœa, &c. It is a remedy which may induce a worse train of evils, if used without proper precautions, than the disease for which it is prescribed. A deplorable case fell under my observation some years since which I am induced to believe was wholly caused by the injudicious use of acetate of lead. A lady ætat. about 35, mother of five children and of a good constitution, suffered abortion in the third month. The placenta was retained three or four days and some considerable hemorrhage followed. To restrain it, the acetate of lead was given freely every two or three hours. I was called on the 4th day and removed the placenta, when the hemorrhage ceased, and although she had not lost blood enough to sap the foundations of life—yet she never recovered. Complete prostration of the powers of digestion, obstinate constipation, and spasms of the bowels and abdominal muscles with colicky pains, the gums became spongy and ulcerated; and before she died vibices and spots like *purpura hæmorrhagica* made their appearance. She lingered three months, and died a painful and miserable death.

The past summer a young lady ætat. 16, of a delicate constitution and nervous temperament, had been troubled with profuse menstruation, at times amounting to menorrhagia for many months; I had always been successful in controlling it with the persesquintrate of iron and kino; being absent when she was taken, a young practitioner was called in who gave her Dover's powder and acetate of lead. After taking several doses, the hemorrhage ceased, but violent pain in the bowels came on attended with obstinate vomiting, spasms in the arms and legs, constipation and fever, with most exquisite tenderness of the bowels, which continued several days. Large doses of morphine and fomentations to the bowels with mercurials finally relieved her, and she has nearly recovered her accustomed health.

In 1838, I was called to attend a lady, 47 years of age, who had been troubled for three years with uterine hemorrhage, and had been taking the acetate of lead and opium for the last two or three months—the hemorrhage had been less since the use of the remedy, but severe and constant pain in the bowels with much tæmefaction, and prostration of the digestive powers was the result: a discontinuance of the lead and a substitution of the persesquintrate of iron with laxatives of the syrup of rhei, restored her to comfortable health, and she has remained so to this time.

In an alarming hemorrhage where it is necessary to use prompt and efficient aid, a dose or two of the acetate well guarded with opium may be advisable, and is probably the best means we possess. But where the case is not urgent, and its use persevered in for some time, I do believe from what I have witnessed that it should not be employed.

BIOGRAPHY.

ART. XII.—*Biography of Thomas C. James, M. D.* By HUGH L. HODGE, M. D., Professor of Obstetrics, etc. in the University of Pennsylvania. *Read before the College of Physicians of Philadelphia.*

SOME years have now elapsed since we were deprived of one of the ornaments of our profession—the late venerable President of this College, Dr. THOMAS CHALKLEY JAMES. His death, though at last sudden, had been long expected by himself and friends from the evident decline of his health, and from the premature approach of those infirmities which too surely indicate the decline of life.

We all knew him. We all loved and respected him. It could not be otherwise. The senior members of this college viewed him as a friend and brother, who had always been their chosen companion and their fellow labourer in all the duties of this society, and of the profession to which they were alike devoted. The younger members looked on him with love and veneration, for he had been their medical teacher—their friend, their counsellor, and, as far as practicable, their benefactor. His example had always been presented, as most worthy of imitation. And, when he departed, they felt, and still feel, as if one important link in that golden chain which binds this generation to the past, was, unfortunately for them, severed.

The college lost one whose devotion to its interests had been sincere and long continued; and whose virtues, age, and experience had deservedly placed him in the most prominent station in its power to bestow.

To his immediate survivors, it would therefore be useless to depict the character of our lamented president; but for our successors, and for posterity, the record should be made, not only that justice should be shown to him who always rendered ample justice to others, but that his example, virtues, and piety, should still benefit the profession which he adorned; and be presented to succeeding physicians as objects worthy of imitation.

The most striking trait in the character of Dr. James was unfeigned modesty and diffidence. His conversation, his intercourse with his friends, with professional brethren, and even with students of medicine, his whole deportment indicated, that he did not rest upon his own sentiments with that implicit confidence which would induce him to promulgate his opinions, or to insist on their correctness or importance. He paid great deference to the opinions of others, and would hence submit to the guidance of those of an opposite temperament, really believing they must be better informed than himself. This native modesty, pervading his whole intellectual and moral nature, had the most decided influence on his professional course, and on his present and future reputation.

Nevertheless, Dr. James, however reluctant he might be to promulgate his sentiments, or even to express an opinion, possessed a mind too powerful and too well furnished not to form positive opinions on almost every

subject to which it was directed, whether in literature or science. Those only who enjoyed his confidence, who were admitted into the favoured precincts of his private friendship, could discover how positive and correct were his sentiments; how discriminating his opinions, respecting men and things; and yet, how anxious to avoid having his views known, whether for praise or criticism.

As a man Dr. James was also remarkable for great dignity, combined with mildness of disposition and gentleness of manners. He was entirely free from any thing approaching hauteur or stateliness; yet no one could look on him without feelings of respect, which were excited by his venerable appearance and by the native simplicity of his manners. He was affable and condescending to all, and never, in the latter years of his life, manifested undue excitement under the most trying circumstances. This gentleness of character was greatly the result of his own efforts; for gifted by nature with a warm heart and a sprightly imagination, he was prone in early life to be excited, when any dear friend or darling opinion was assailed. In subsequent years he had so fully obtained the government of his passions, that no one even suspected that he could ever have been under their influence; a victory this, more difficult of achievement than those which have conferred celebrity on many of the heroes of the world.

This self-command was the result of high moral and christian principles. As a young man, when his feelings and passions were ardent, he is believed to have been uniformly correct in his conduct and moral principles. Subsequently there can be no doubt that he was governed by the high principles of Christianity. To this important subject he devoted much attention. He studied the Bible as the source of all correct knowledge on religious subjects, not only in his native language, but in the original Hebrew and Greek, and in the Latin, French, and German versions. He examined the various readings, the commentaries of different authors, and the creeds of different sects of Christians. He ventured even within the perplexed mazes of theology, and endeavoured to elicit information and sound doctrine from the obscurities of theological metaphysics. His mind, however, was too strong to become confused by sophisms, and his heart too sincere in the love and pursuit of truth, to be lost in this extensive investigation. He returned from these excursions laden with good fruit; and, after much inquiry among the living and the dead, he rested with child-like confidence, his hopes of immortal happiness on the simple declarations of the Bible. Frequently in the confidence of friendship has he confessed to the writer his great and overwhelming sense of the depravity of human nature; that he had no confidence in his good intentions, feelings, or actions; and that all his hope of pardon and happiness rested on the merits and sacrifice of an Almighty Saviour. This solemn declaration was reiterated in the most impressive manner to his family and physicians, a short time previous to his dissolution, and was almost the last effort of that excellent man, whose life in the eyes of his fellow-men was irreproachable, but who regarded himself as vile in the sight of a Holy God.

His life was governed by these principles. In conjunction with the diffidence and modesty of his character, they gradually separated him from the general intercourse of society. Although naturally of warm feelings, of ardent attachments, devoted to his friends, disposed to be social, and happily gifted with convivial talents, abounding with anecdote and information, Dr. James, in the latter periods of his life, studiously avoided all

social meetings. The collisions of sentiment, the scintillations of wit, as well as the ruder shocks which occasionally result from opposition of opinion in mixed societies, were too powerful for his refined taste and sensibilities. He was fond of reading and study, of examining intricate subjects in the quietness of his study, surrounded by the recorded facts and opinions of the mighty living and dead, and of thus forming slowly, but carefully, his own opinions. He devoted every moment to the acquisition of knowledge, which could be spared from the arduous duties of his profession, and from that delightful intercourse with his family to which he looked for substantial happiness.

His main objects of pursuit were of a practical character, especially those which related to the duties of his profession and the demands of religion, but he always, especially in his youth, manifested a love for literature. He was fond of the belles lettres. In the early periods of his professional career he indulged a strong native taste and a sprightly imagination, not only in rapidly ranging over the products of kindred minds, but in becoming himself a writer, even of poetry, and, in the opinion of partial friends, with no ordinary success, but never so much to his own satisfaction as to allow his name to be publicly connected with any of his productions. Several effusions emanating from a true poetic fancy, and suited to the circumstances of the day, became exceedingly popular, and gave him a publicity he studiously avoided. In the magazines of the day are to be found some sprightly and beautiful verses, entitled the "Glow Worm," "The Eagle of Freedom," "The Country Meeting." A friend and cotemporary states that he well remembers the last mentioned production—that it was very much admired, and passed through all the magazines that were published, for several succeeding years. On the same authority it may be mentioned that in 1794 Dr. James accompanied the Western expedition as Surgeon of the "M'Pherson Blues," and on his return presented his friend with a copy of a very animating song which he wrote on a drum-head, at a time when great gloom pervaded the corps. It had a fine effect on their spirits—was set to music, and was sung through the camp for a long period.

Under the signature of P. D., he published in the *Port Folio* for 1801, versified translations of the Idyls of Gessner, which were regarded by good judges to be entitled to "much and some to high praise for poetical merit," as well as exhibiting his accurate knowledge and fine perception of the German language and idiom.

The imagination of Dr. James was, however, restrained by strong good sense, and by devoted attention to practical duties. Nevertheless literature was his delight and recreation. He kept pace with the publications of the day, and amidst the interruptions and toils of an arduous and self-denying profession, succeeded in gratifying his taste and refreshing his spirit by continual recurrence to these fountains of unalloyed pleasure. These intellectual gratifications were derived, not merely from publications in his native language, but from those in Latin, Greek, French, and German, with all which his knowledge was considered as so intimate that he could fully appreciate their merits and enjoy their most delicate allusions: thus keeping up an active interest in the republic of letters, and a peculiar fitness for intelligent and cultivated society.

Intimately associated with these intellectual gratifications, was the interest he manifested in the history of his native state, in the character and

conduct of the earlier settlers, in the product of the soil, and especially in the richness and variety of its mineral productions. He was among the first to perceive and rightly to estimate the great value of the coal formations—so numerous and varied in Pennsylvania—having commenced the use of anthracite coal in his own house as early as 1804, and having published* a memoir on its original discovery. He was among the founders of the society for commemorating the landing of William Penn, and also of the Historical Society of Pennsylvania. To these he devoted much of his leisure, took a warm interest in their success, and rejoiced in every new development of the original character and policy of the early settlers, in every discovery relating to the physical and moral character of Pennsylvania.

It does not appear that Dr. James ever devoted much attention to the exact sciences. He was in the proper meaning of the term a Philosopher,—a lover and a supporter of science;—but, irrespective of those branches which are involved in his profession, he left to others minuteness of detail, and contented himself with mastering the general principles, and lending his influence for the support of scientific men and institutions. Being early made a member of the American Philosophical Society, he at one time attended its meetings, acted as its secretary, and was interested in their transactions; but afterwards he but seldom appeared, and, it is believed, never contributed any paper, except on medical subjects, to their publications. He preferred the seclusion of his study to the bustle of the society, and the lighter walks of literature to the rougher paths of science.

It is as a medical practitioner that Doctor James was best known to this community, and especially to the members of this college. In this character, who has not known and admired him? Who is not ready to present him, as regards his disposition, his virtues, his sentiments, his manners and deportment, as a model for the young physician? His whole conduct proved that he was governed by those high-elevated sentiments, which result from an enlightened and gifted mind,—sustained by all that virtue and religion impart, to purify and exalt the human character. As a physician, he was especially distinguished for the benevolence and kindness which characterized his intercourse with his patients. He was anxiously devoted to their welfare, sympathized with them in their sufferings, and laboriously exerted himself at all seasons to remove or meliorate their trials, not only by administering the usual professional remedies, but by inspiring confidence, elevating their hopes and expectations, changing the current of morbid thoughts and feelings by his cheerfulness, intelligence, extensive information; by the pleasant and elevated tone of his conversation, abounding in humour and anecdote, calculated to lead off the mind diseased from the contemplation of its sufferings, to more delightful, if not engrossing subjects; and to afford the stimulus of hope—so powerful in resuscitating the depressed energies of body as well as mind. The benevolence of his disposition was also manifested in his gratuitous and disinterested services to those unable to reward his attentions by any other recompense than the overflowings of a grateful heart: and, not unfrequently, by services to those who in the hour of health and of prosperity, remember, not even with gratitude, the devotion and anxieties of that man, who under Providence restored them from the brink of the grave, to life, health, and happiness. In all such cases, it was the uniform practice of

* In vol. ii. p. 154, part I. of the *Trans. of the Historical Society*.

Dr. James to submit to injustice, rather than have any unholy passions excited in his bosom by the wickedness of others.

In his attentions to patients he was unremitting and persevering, even when the infirmities of declining health might afford a suitable excuse. When the extent of varied character of his practice is considered, when it is known that much of his time was occupied with obstetrics, and, of course, that his hours of rest and sleep, as well as those allotted to recreation or business, were thus encroached upon, it will be found no mean praise that none complained of his remissness or neglect. The wonder is, that business such as his could have been, in any manner, suitably transacted.

Although Dr. James was remarkable for the kindness of his feelings, and the suavity of his manners towards his patients; although the benevolence of his character may have occasionally inclined him to be too lenient in enforcing his prescriptions; yet he never compromised the dignity of his profession. None of the modern forms of empiricism, however supported by nominal physicians, received any countenance from him. His appearance, manners, conversation, sentiments,—all evinced the instructed and polished practitioner, who never condescended to the minor arts, by which lesser minds attempt to advance their temporary popularity, forgetful of their permanent interests and of the welfare of the profession. Dr. James at once cast his professional interests on his moral and intellectual character; he maintained, steadily, but quietly, and without offence, his personal and professional dignity, and with a result, every way encouraging to the young practitioner. He did not, it is true, at once command an extensive practice; but he gradually, but surely, fixed on himself the confidence of the community in his integrity, virtue, benevolence, intelligence and professional attainments,—a confidence eventually manifested by an over abundant practice; a confidence which gained strength with his years, until the withering hand of time, rendered, in his case, more influential by watchings, anxieties and fatigue, advised him, as well as others, that his course was to close sooner than his friends anticipated.

As a practitioner, he was remarkable for his knowledge, and for his judgment in the selection and application of remedial measures, rather than for the novelty or boldness of his prescriptions. He was well read in his profession, learned in the opinions and practices of others, well imbued with all that collateral information, so important for all professional men, especially for the physician; and interested in every thing suited to advance the interests of the profession, to enlarge the boundaries, or to increase the efficiency of medical science. He was a scientific physician; not governed simply by authority, or by the experience of himself or others, but regulated by principles derived from anatomy, physiology, and pathology. He was, however, a practical physician; that is, he was never led astray, or unduly influenced by novelties, by specious theories, by the crude notions of men of talent or genius, but always adhered to those principles and remedies, which, while they were sustained by scientific rules, had received the testimony of experience in their efficiency. Hence he was not one of the pioneers of the profession—not one who was remarkable for the novelty of his views, the importance of his discoveries, or the boldness of his practice,—but he was numbered among that most respectable and useful class, who, by the exercise of a discreet judgment, under the guidance of science and experience, profited by the discoveries of others, perhaps of more

genius, and of more energy and enthusiasm; and at the same time avoided the errors into which such geniuses often fall, and the mischief they not unfrequently produce.

As an obstetrician, he was chiefly known to the inhabitants of this city and of our country; and great are the obligations under which society is placed to him and a few of his cotemporaries who, by their talents, education, learning, manners and accomplishments elevated and adorned a department of the profession which had been unaccountably neglected, and was, in this country especially, in a degraded condition.

As a practitioner of obstetrics, Dr. James manifested the same kindness and benevolence of disposition, the same prudence, discretion and judgment for which he was distinguished as a physician, and which gave him an eminent station as an accoucheur. As an operator, he was also skilful and prudent: occasionally also bold and decisive when the circumstances of the case demanded his assistance. His natural diffidence of himself, his fear of responsibility, his deference to the opinions of others, prevented however his obtaining that self-command and that composure essential for greatest eminence in the operative department of obstetrics. Nevertheless a large proportion of our physicians resorted to him for assistance in cases of difficulty and danger with the happiest results.

As a teacher of obstetric science, his success was also great. Commencing a system of instruction when no medical school patronized this department of the profession, when the prejudices of the community were greatly in opposition, and when even practitioners of medicine thought any peculiar tuition on this subject unnecessary, Dr. James succeeded in securing the attention of a very respectable portion of the pupils who then resorted to Philadelphia for medical instruction, and soon obtained an influence in favour of tokology, by which the practice was rendered more efficient and extensive, and the importance of the science suitably acknowledged by the establishment of an independent professorship. Occupying the situation of professor, he was well and advantageously known to the full classes which annually resorted to the University of Pennsylvania. In him, they beheld the accomplished obstetrician, one whose mild, sociable yet dignified deportment, not only gained their respect but their affection; who not only secured for himself attention and confidence, but for his science, the devotion and interest which it so richly deserved.

As a lecturer, it is not pretended that Dr. James was perfect; the critic might say that from the native peculiarities of his character, especially from that modesty and self-diffidence, that respect to the opinions of others, even of mere tyros in their profession, he wanted that boldness and decision, that spirit and enthusiasm, that air of originality and self-confidence so interesting and impressive in a teacher, so calculated to fix attention and impart instruction. Nevertheless he was an excellent teacher. His lectures were handsomely and classically written; they were copious, abounding in matter, rich in illustrations, and indicating a mind of a superior cast, well cultivated and enriched with literary, as well as scientific attractions. If he wanted originality, he was well versed in the opinions and discoveries of others; if he was deficient in spirit and boldness, his compositions evinced great taste, much reading and laborious attention to his subject, so that every lecture was a full and satisfactory essay on the subject, treated with suitable references to acknowledged authorities. His delivery, it may be inferred, was not very impassioned; he wanted more

energy; and more vigour in his voice and composition, yet he was always interesting from the mild dignity of his appearance and manners, and from the good sense and superior mental and moral character which marked the man and his productions.

Hence he was a successful teacher. This is not the proper occasion to analyze the doctrines which he taught, or to examine the medical and surgical treatment which he recommended in the practice of obstetrics. Suffice it to say, that receiving his early impressions from distinguished English teachers, his views were founded mainly on British obstetrics. He examined, however, the productions of the French and other continental schools, followed their writers into that scientific detail, and those minute instructions regarding the mechanism of labour and the treatment of parturition therewith necessarily connected, which has distinguished the French obstetrician, and so elevated the science of tokology. Profiting by all this accurate information, Dr. James still in his teaching and his practice, yielded to the influence of the English rather than of the French authorities, either from the influence of early impressions, or from a decided conviction of the superiority of the former.

Unfortunately for the medical profession, as well as for the greater perpetuity of Dr. James's reputation, he has not appeared before the public as a medical writer. The results of his accurate observation and extended experience have, with some minor exceptions, perished with him. Dr. James has published few opinions on professional subjects. This is to be regretted, for it seems hardly possible that the experience of a long life, devoted to the observation of disease, to the details of a profession so varied, yet so imperfect, as that of medicine, should not have furnished abundant material for the improvement of his science as well as for the amelioration of human suffering, especially when elaborated by a mind so well constituted and liberally furnished. Our regrets are unavailing, but this negative example should induce all of us who are actively engaged in professional duties to make that record of our experience and observations, which when age or ill health prevent active exertion, may be promulgated as our mite to the cause of science and the interests of humanity.

The excellence of Dr. James's feelings, the exercise of his benevolence and his christian charity were not limited, however, by the duties of his profession. He was a promoter as well as a patron of many benevolent institutions. He was, as early as 1801, made physician to the Welsh Society; was for some twenty-five years on duty as a physician to the Pennsylvania Hospital, and was among the founders of the Union Benevolent Society, which has been productive of so much moral as well as physical good to the poor of our city, whose means and influence are still increasing. Over this society Dr. James acted as president until the period of his death, giving impetus to its first and feeble efforts by his liberal contributions, and by the weight of his personal and professional character. He was also a warm friend of the negro. Actuated by a sound judgment and christian feelings, he ardently desired his emancipation from moral as well as physical slavery: of course not that sudden emancipation which would send him forth upon the world as an infant or a child, incapable of providing for present or future wants; or as a savage, hungry, and revengeful; with his hand against every man, and every man against him. No: but for that gradual emancipation, which would first diminish the intellectual and moral darkness in which his brother was enshrouded, and

then would knock off fetter after fetter, from the enslaved limb of the African, until he could with confidence and exultation bid him walk forth a freeman; free from physical restraints to his body; free above all things from the slavery of ignorance and vice. Such were the views of Dr. James; hence he early lent his influence to the society (formed chiefly among Friends, and having for a long time the late excellent Wm. Rawle as its president,) for the abolition of slavery in Pennsylvania. In perfect consistency with these views he was among the first members, and for a considerable time the president of the Pennsylvania Colonization Society, believing that the true interests of the black would by this institution be most efficiently promoted. Perhaps it is known generally, that at that period, more than at present, these were not the general impressions respecting the Colonization Society, especially among the society of Friends, who regarded the system of colonization with a jealous eye, as calculated to strengthen, not to weaken slavery in these United States. Dr. James was, therefore, unpleasantly situated with his most intimate friends and his religious society. He acted on this occasion in obedience to those feelings and principles which always governed him. He resigned "to please friends," anxious to avoid any thing which would gender strife or bad feelings, to avoid "even the appearance of evil;" although his own sentiments, as declared to the writer, remained unaltered. Another example in which the amiability, timidity, and modesty of his character, prevented him from taking that bold stand in which his influence would have been great, and, in the opinion of many, for nothing but good.

Dr. James lent also the great weight of his character to the active measures adopted for the suppression of lotteries, but his modesty was again shocked in being made president of the society for their suppression. He did not live long enough to see the triumph of these benevolent principles by which he and his colleagues were actuated, in the abolition of this nefarious business by the constituted authorities of the state.

Such was the character of our late president, modest, retiring, distrustful of his own abilities; willing at all times to avoid responsibility, seldom acting therefore boldly and decidedly; but, nevertheless, a man of superior talents, well cultivated, with ardent feelings and social propensities, in love with literature and science, eminently prepared for the social circle, for literary and scientific society, and for the active, laborious, and exhausting duties of the medical profession. As a physician, especially as an obstetrician, a noble example of the profession, venerable, not only for his appearance, but for his real excellencies. He was beloved and respected by all. His manners were courteous, affable, to the high and the low, to the learned and the unlearned, to the experienced practitioner in medicine, who came to solicit his advice, and to the student who was anxious to imbibe his sentiments on all subjects. Every word and look intimated the delicacy and purity of the inner man, whose mind was stored with knowledge, and whose heart was overflowing with kind feelings. "His character," says an intimate friend, Mr. Anthony Morris, "belongs to that distinguished class in which the virtues appear more from a habit of doing every thing in the spirit of Christianity, than any thing in the spirit of the world. There was no display, but a consistency and conformity in every thing to the mind, and manners, and habits of the christian gentleman."

It would be interesting, if practicable, to trace the gradual development of such a character from infancy to old age, to discover, if possible, the circumstances which favoured its growth, and to draw philosophical de-

ductions for the improvement of the present or succeeding generations. Such hopes are vain, or nearly so; man is born with his peculiarities, with specific and yet complex sensibilities, and however similar the circumstances of life and education of two or more individuals, entirely different characters result. This is experience, ancient and modern, in opposition to the theories of philosophers. Still, our interest for the early history of the great ones of this world is not diminished, and when little can be learnt, as in the present instance, the disappointment is felt.

The ancestors of Dr. James were originally from England, and on both sides were connected with the society of Friends. His maternal grandfather was Thomas Chalkley, (for whom the Doctor was named,) who for many years exerted by his talents, eloquence, excellencies and untiring industry, a most extensive influence among Friends in Europe and America. His life and correspondence have been published, and indicate the superiority and excellence of his character.

His father, Mr. Abel James, was for many years one of the leading merchants in Philadelphia, and very successful. From a character published in the Columbia Magazine, for 1790, we learn that he was of an active, enterprising spirit, well prepared to devise plans for mercantile advancement, but disposed to leave to others the practical details and the efficient execution. Eventually however, he failed, and soon after, in the year 1790, Oct. 27th, died apoplectic, leaving his affairs in a state of derangement. His widow, with a spirit worthy not only of her pious ancestor, Thomas Chalkley, but of that christian religion which she professed, gave up all her own private property, inherited from her parents, and never involved in the business of her husband, for the satisfaction of his creditors. Part of her property was eventually restored, there being more than sufficient for the liquidation of the debts.

Of such parentage was our friend and president: not usually termed noble, but far superior to that ancestry too often termed noble, which has no recommendation but external honours and decorations. Dr. James was born in Philadelphia, Aug. 31st, 1766, and was the youngest son. He was well educated after the manner of Friends, especially at their school, under the superintendence of Robert Proud, the historian of Pennsylvania. No doubt can exist, that his love of literature and of books in general, must have been at this period manifested, as his proficiency was early evinced, and a superiority over his cotemporaries in this respect existed, which could not otherwise be explained. He commenced and prosecuted the study of medicine under the direction of that eminent practitioner, Dr. Adam Kuhn, a disciple of Linnæus, whose opinion always carried weight among his medical brethren, and who had the honour of educating some of the first physicians of our country. In 1787, at the age of twenty-one, he received the certificate of bachelor in medicine from the University of Pennsylvania, of which his preceptor, Dr. Kuhn, was a distinguished professor. It was about this period that his father's affairs became deranged, and the desire of the son to have a complete medical education, then not to be procured in America, seemed to be thwarted. He did not despair, but through the influence of friends, procured in the fall of 1788, the situation of a surgeon in the Sampson, a mercantile vessel, to the Cape of Good Hope and Canton, and by the results of this tedious voyage, was enabled to carry his anxious wishes into complete execution. His voyage was productive of no remarkable incidents, but gave opportunity for reading

and reflection, which was fully embraced, as well as for the exercise of his passive virtues. He returned home early in the summer of 1790, and soon afterwards completed his long contemplated preparations for finishing his medical education in Europe. After receiving advice and instructions from his experienced friends and preceptors, Dr. Adam Kuhn and Dr. Wistar, he sailed for London in the fall of the year. A short time before the death of his beloved and respected father, the intelligence of this melancholy event reaching him not very long after his arrival.

In London he found his countryman and fellow student, Dr. P. S. Physick, a pupil and an assistant of the celebrated Mr. John Hunter, pursuing his studies in St. George's Hospital. By Physick's advice, Dr. James entered (May 30, 1791,) as a house pupil of the Story-street Lying-in Hospital, under the care of Drs. Osborne and John Clarke, the two leading obstetric practitioners and teachers in London. In this institution he had soon the pleasure of receiving as a companion, his friend Dr. J. Cathrall, who was also with him at Canton. The winter of 1791-2 was spent in London chiefly in attending lectures, and also as an attendant at St. George's Hospital. When relieved from professional studies for a short period, he availed himself of his letters of introduction, especially to the connections of his mother's family, and partook of the hospitality which was freely and cheerfully extended to him. He speaks in his letters with gratitude, of the attentions he received from friends, and also from that ornament of our profession, Dr. Lettsom, who treated him very kindly, and proffered him letters of introduction to Paris.

After much deliberation respecting the relative advantages of spending a winter in Edinburgh or Paris, and after consulting by letter his friends on this side of the Atlantic, he finally followed the example of Drs. Physick and Cathrall, and went to Edinburgh in the spring of 1792. Here he remained and attended the lectures during the succeeding winter, in company with Dr. Hosack of New York, and Dr. Ruan, one of our fellow members, whose acquaintance with Dr. James commenced at Edinburgh.

It does not appear that Dr. James graduated at Edinburgh, in imitation of his friends, Dr. Wistar and Physick, being content with the honours of his own University in Philadelphia, then in its infancy. In the month of June, 1793, Dr. James, accompanied by Dr. Ruan, arrived at Wiscasset, in the then district of Maine. They reached Philadelphia a short time only before the terrible and then unknown epidemic, while the yellow fever, visited this city. Dr. James had hardly time to receive the congratulations of his anxious friends, when the fatal scourge appeared, bringing dismay and terror, even to the boldest spirits. Before time was afforded him for exerting his talents and acquired knowledge for the benefit of others, he himself became a sufferer and for some time was disabled. He probably had but a slight attack, for in a letter dated Philadelphia, Sept. 20th, 1793, to his mother, he makes no mention of his own health, while he alludes to the dismal scenes which his family and professional duties had made too familiar. In the violent disputes which unfortunately existed among the leading physicians of the day, respecting the source and nature of the epidemic, Dr. James, as might be supposed from his character, took little part. He however decidedly avowed himself as agreeing with Kuhn and Wistar, to whom his predilections and attachments had formerly been fully accorded. Still so slightly was he tainted with prejudice, that when Kuhn and Wistar were absent from the city, he solicited the assistance of Dr.

Rush for a sick relative, as we learn from the above-mentioned letter to his mother.

The winter dissipated the epidemic, and of course the fears, although not the sorrows of the inhabitants of Philadelphia. Dr. James undertook the more regular business of his profession, but did not yet feel himself settled; for the ensuing year we find him acting surgeon to the "M'Pherson Blues, on the Western Expedition," as already mentioned.

On his return from this military expedition, he opened his office and became a candidate for professional business and reputation in this city, under the most favourable prospects of success. The yellow fever had greatly thinned the ranks of the profession. Dr. Way and Dr. Carson had lately died. Dr. Dunlap, who was extensively and almost exclusively devoted to obstetrics, was advancing in years, and depended much, says Dr. Ruan, on Dr. James, whilst his competitors, although numerous, were about his own age, and perhaps none of them possessed the advantages which Dr. James enjoyed. With the talents, attainments, extensive and complete medical education at home and abroad, now extending to at least eight years of preparation, was conjoined great personal attractions.* His figure, I am informed by one who, although his junior, became acquainted with him about this time, was nearly perfect; his features handsome, his expression open, candid, cheerful; his manners pleasant, and his conversation, when he felt unrestrained, was of the most elevated character, abounding, as a friend and relative informs me, with information, cheerful, occasionally eloquent, and always replete with anecdotes well selected, and garnished by the corruseations of a poetic imagination. His family connections were of the most influential character; while his medical friends, Kuhn and Wistar, were the ornaments of the profession, and exerted an influence not second to those of any of their cotemporaries. Thus favoured by natural endowments, mental and corporeal, supported by family and professional influence, and blessed by providential arrangements, great expectations were entertained of Dr. James; his society was sought for; a connection with him was by all esteemed desirable, and his success in his profession was regarded as certain and rapid. These favourable presages were however not realized. His morbid sensitiveness, and his dread of responsibility, prevented his taking the lead in the professional race for reputation and practice. He drew back under a mistaken notion of inferiority and unsuitableness. His friends however, acted judiciously and decidedly. They made him assume his proper station, and gradually bring his strength into competition with that of his cotemporaries. This alone was necessary; he gained confidence, so that in the course of a few years he ventured to teach, as well as to practice his profession, and, having about this period married Miss Hannah Morris, (a lady connected with one of the first families in Pennsylvania, eminently adapted by her mild, but decided character, her judicious, yet cheerful disposition to meet the peculiarities of Dr. James's character,) his success became certain, business rapidly increased, and his time became fully occupied with patients and pupils, all of whom admired and loved him.

In 1802, Nov. 17th, Dr. James, in conjunction with the late Dr. Church, commenced his first regular course of lectures on obstetrics. It was altogether a private course, entirely unconnected with the University or any corporate institution, resting for success on the merits of the lecturers alone. It was quite successful, commencing with twenty pupils, who had the

good sense to devote time to this neglected department of medical science. This was not the first effort to teach obstetrics in our country; for some lectures were delivered by Prof. Shippen in the University of Pennsylvania, and Dr. Dewees lectured prior to this period in 1797; but it seems to have been the first regular and sustained effort; the commencement of that chain of circumstances which has elevated the science of Obstetrics to a co-ordinate rank with the other medical sciences, in the opinion and confidence of the community through the whole extent of our country. To render his teaching useful, Dr. James, assisted by Dr. Church, not only employed the usual modes of illustration, but zealously endeavoured to instruct practically, as well as theoretically. For this purpose his influence and exertions prevailed in having a "lying-in ward" (the first in this city) established at the Almshouse, over which he presided as attending accoucheur. To each case of labour was admitted not only the resident pupils of the house, but three of those attending the lectures, so that in succession all were furnished with cases, the peculiarities of which were duly explained.

The first course of lectures terminated on the 2d March, 1803, the second commenced May 10th of the same year. So that two courses were delivered every year for three years. On the death of Dr. Church, which occurred about this period, Dr. James associated Dr. Chapman with himself, lecturing with him during the winter of 1807-8, and subsequently as a private and public teacher.

In 1808 Dr. Shippen died, and Dr. Wistar was appointed his successor, as Professor of Anatomy and of Midwifery. Dr. Wistar immediately perceived that these two departments of medical science ought to constitute two distinct professorships. On the 3d of January, 1809, he communicated these sentiments to the Board of Trustees, but it was not until the 11th of April, 1810, that the Board took action on this important proposal of Dr. Wistar, and declared by resolution that there should be a separate Professorship of Midwifery in the University of Pennsylvania; but singular as it now seems, they did not render it obligatory on the student to attend the lectures, nor did they place the Professor on an equality with his colleagues.

For this new and important station—important, not only for the expected incumbent, but for the interests of science and the cause of humanity, several candidates were immediately presented, and supported warmly by their respective friends and admirers. Dr. James had for his opponents Dr. Wm. P. Dewees, who had been practising midwifery since the year 1793 in Philadelphia with great success, and whose reputation as a practitioner was then at its height. Also, Dr. N. Chapman, much younger than his rivals, but whose talents and attainments, whose vivacity, humour, and other social qualities, united with an excellent education in this country, polished by a visit to Europe, and with the influence of many and devoted friends, had attracted in a few years the admiration of our community. The election by the Trustees was made June 29th, 1810, and terminated in the elevation of Dr. T. C. James as Professor of Midwifery in the University of Pennsylvania, with the understanding that he should be assisted by Dr. Chapman. This was a most important epoch, not only in the life of Dr. James, but in the history of Medical Science, particularly of obstetrics in the United States.

The first course of lectures in the University was commenced by the new

Professor in November, 1810, and although supported, not by any positive regulations on the part of the trustees, but merely by the indirect influence of the school, and by the personal character of the teachers, was attended by a large proportion of the medical students then assembled in Philadelphia.

In May, 1813, the medical profession lost one of its brightest ornaments, Dr. Benjamin Rush, the Professor of the Theory and Practice of Medicine, whose life and opinions have become identified with the history of medicine in our country. He was succeeded by Dr. Benjamin Smith Barton in the practical chair, on the 14th July, 1813; while the chair of Therapeutics and Materia Medica, vacated by the resignation of Dr. Barton, was assigned to Dr. Chapman, on the 13th Aug., 1813, and Dr. James was left the Professor of Obstetrics without an assistant. On this interesting event, the following resolution was unanimously passed by the Board of Trustees in Oct., 1813:—"Resolved, that hereafter the Professor of Midwifery shall be a member of the Medical Faculty, and shall have all the power, authority, and privileges, belonging to a professorship in the said Faculty, and that no person shall be admitted hereafter as a candidate for the degree of Doctor of Medicine in this University, unless he shall have regularly attended the lectures of the said Professor for two years, provided, &c."

This triumph of truth and humanity over ignorance and prejudice may be considered as complete. Obstetrics was confessedly equal to the other practical branches of medical science; and its practitioners and teachers were authoritatively pronounced on a par with those of Surgery and the Practice of Medicine. The battle had been fairly fought and won, and Dr. James who, we have seen, contributed so much to this happy issue, received now the reward so eminently due to modest worth, superior talents and attainments, united with persevering industry.

Large classes annually resorted to Philadelphia, and profited by the lectures and demonstrations of the various professors, which were continually rendered more pointed and instructive, by the reiterated experience in the difficult art of teaching, and by the adoption of all the real improvements promulgated here or elsewhere.

At this interesting period of the history of medicine in our country, it was the lot of many members of this society, and of the writer of this memoir, to form a professional, and afterwards a friendly acquaintance with the professor of midwifery. Some fifty years had passed over his head. Age had made an undue impression, owing perhaps partly to original temperament, but more to mental and corporeal exertion, to anxiety, to loss of sleep and necessary exposure. He was partially bald, his hair whitened, and his form originally so perfect, was now somewhat bent, but his ruddy and healthy aspect, his fine countenance, his diffident yet refined manners, his affability, his condescension to medical students, his great intellectual and moral worth, excited feelings of affection and veneration in the minds and hearts of all.

Dr. James continued to lecture without assistance, to the increasing classes of the University until 1821, when, with the desire of relieving himself of a portion of his duties, but especially with the wish of rendering the course more valuable, he requested the assistance of the then adjunct professor of anatomy, Dr. Horner, in demonstrating the anatomical portions of the lectures, and in exemplifying to the sub-classes, the mode of per-

forming obstetric operations. Soon, however, the lamentable fact began to be apparent to Dr. James, as well as to the pupils, that his physical powers were failing. A nervous tremour was occasionally observed in the fingers of the right hand; gradually but very slowly, it extended to the muscles of the right arm; and in a few years involved all his nervous and muscular system, exciting the symptoms of a premature old age, and indirectly becoming the cause of his death. Soon after, his voice began to fail, so that great attention was requisite to hear him during the lecture. He applied to the trustees for an assistant to his chair. In consequence of this suggestion, the following resolution was passed on the 18th of October, 1825:

“That an Adjunct Professor of Midwifery be appointed, who shall hold his appointment so long as Dr. James continues to be Professor of Midwifery: Provided that the expenses of the student shall be in no manner increased by such appointment, and that such an Adjunct Professor shall have no vote in the Faculty of Medicine, except in the absence of the Professor of Midwifery to whom he is adjunct.”

On the 15th of November, 1825, Dr. William P. Dewees was unanimously elected adjunct professor under the foregoing resolution, and immediately entered on the duties of his new situation.

With this valued reinforcement, Dr. James continued for some years longer to exercise his duties at the University and in private practice, but the annual increase of his nervous tremours seemed continually to diminish the strength of his voice and the activity of his body. Eventually, most of the lectures having been in the year 1833-34 delivered by Dewees, Dr. James in justice alike to his own character, to Dr. Dewees, and the University, resigned in the month of June, 1834, his professorship, of which he in a great measure, may be considered the founder, and the reputation of which he sustained for the long period of twenty-four years.

We have already intimated the manner in which those duties were discharged, with how much affability and dignity combined, with what purity of diction his instructive lectures were delivered, and how the love and veneration of the students were extended to one to whom the profession and the public were so much indebted.

During his professional career, he became engaged also with many private and public institutions as physician in ordinary, or as consulting physician; among others, with the Welsh Society, St. George's Society; also with the Philadelphia Dispensary, where for many years he was consulted by the attending physicians, many of whom, with much gratitude, bear testimony to the value of his assistance, and to the readiness and cheerfulness with which it was at all times rendered. As formerly remarked, he might be regarded as the founder of the “Lying-in department” of the Philadelphia Almshouse Infirmary, over which he presided until about the year 1807, endeavouring to render it practically important for students of medicine. In 1807, (Jan. 26,) he was appointed Physician to the Pennsylvania Hospital, as successor of Dr. J. Redman Coxe, and on the 25th of June, 1810, was translated at his own request to the station of obstetric physician. The duties of this appointment he continued to discharge with scrupulous attention and punctuality, until the 26th of November, 1832. He watched over not only the interests of his immediate department, but the other portions of the establishment, and paid great attention to the medical library of the hospital, the improvement and increase of which he facilitated very much by his advice and recommendations. At his resigna-

tion, the board of managers made the following minute on their records: "A letter from Dr. Thomas C. James was received, resigning the station of obstetric physician after twenty-five years service most acceptably in this institution. The managers, on parting officially from the Doctor, tender him their acknowledgments for his long, faithful, and useful labours, and assure him of their cordial regard, and best wishes for whatever may contribute to his future happiness. The secretary is requested to furnish Dr. James with a copy of this minute."

In the Philadelphia Medical Society, Dr. James was an honorary member, but the exciting character of its debates never seemed to suit the quiet tenor of his feelings, and he rarely, at least of late years, attended its meetings. To the College of Physicians he was much attached. Its quiet and dignified course well suited the peculiarities of his character. Within its precincts, he was sure to meet with his contemporaries and personal friends, or with those who were gratified in numbering themselves among his pupils and admirers; and he there never anticipated that rude collision of sentiment, which, although it may occasionally elicit the spark of genius, too frequently generates the fires of envy and passion. He was elected Fellow of the College on the 6th of October, 1795, and in July, 1796, he succeeded Dr. Samuel P. Griffiths as secretary. The duties of that office he discharged for six years. In 1809 he was made treasurer, and continued as such for seventeen years; at the expiration of this period in 1826, he became vice-president, and finally in March, 1835, he was unanimously elected president as the successor of Dr. Parke. We all remember the interest which he took in the affairs of the college, the pleasure with which he attended its meetings, and the suavity and dignity with which he presided over its deliberations. Great however, as was his confidence in his associates, and anxious as he was for the improvement of medical science, he was unwilling to present his sentiments in written communications to the society. With perhaps one exception, the papers he read were rather the history of facts than the detail of opinions. On the 9th of April, 1804, he presented the history of a case of hydatids. On the 4th of September, 1810, he gave the details of a case of premature labour, artificially induced by himself, in the case of a contracted pelvis, after the expiration of the seventh month, with the gratifying result of safety to mother and child. This is the first record, we believe in this country, of the scientific performance of this operation, for which much credit is due to Dr. James, especially as in America and Europe generally, it is still viewed with suspicious eyes, although in Britain, it is regarded as an established operation in certain defined cases.

On the 7th of August, 1827, he read a paper on extra-uterine pregnancy, in which he seemed anxious to establish the opinion from the historical detail of cases, that ventral or abdominal pregnancy never originally occurred; that tubal or uterine pregnancy had previously existed in cases where the child was found in the cavity of the abdomen; the tube or uterus having been ruptured or ulcerated, so as to allow the escape of the fœtus from its original location into the peritoneal cavity. His reasoning from the anatomy and functions of the parts concerned, from the mode in which the fœtus is sustained, and especially from the facts on record was ingenious and powerful; but facts subsequently detailed seem to confirm the opposite opinion, however improbable, that the ovum may be depo-

sited in the peritoneal surface and there be developed with its contents, in some instances, even to the usual period of utero-gestation.

Connected with his efforts to favour the beneficial influence of the college, and the progress of medical science in our country, was the establishment and support of a most valuable periodical work, termed as evincive of its character the *Eclectic Repertory*, commenced in the year 1811, and carried on for eleven years with great advantage to students and practitioners of medicine. Although chiefly eclectic from foreign books and journals, many valued domestic and original monographs and cases were admitted, which enhanced the interest and importance of the publication. The names of the editors whose disinterested labours and judicious efforts were for a long time lent to this undertaking have not been published, but were known to most of the members of the college. They were Drs. Hewson, Parrish, Otto, James. The latter is well known to have spent much time in selecting and preparing suitable materials, although he did not frequently contribute original matter to its pages.

Such are the most important and interesting facts which we have been able to procure, respecting the public and professional duties of our late President. There is another series of facts which might be brought into view as exceedingly interesting, but which have only an indirect bearing on his character before the world. We allude to his private, his domestic history; but this is and ought to be a sacred subject, to be touched by no foreign hand. Suffice it to observe, that what Dr. James was abroad, he was at home, excepting that when in company with friends and relations, reserve would be banished and his warm, full heart, would overflow in confidential and familiar intercourse with his family and friends.

Thus blessed in his domestic relations, in his social circle, and in the confidence of the public as a practitioner and teacher of medicine, the moderate expectations of Dr. James were abundantly gratified; he had all that this world could bestow to render life happy and useful. He, however, felt and acknowledged that more was requisite to satisfy the wants of man, and he early found that religion alone can give zest to temporal enjoyments, and dissipate the dread of a future state of existence so natural to the human soul. In this state of mind, looking forward to an eternity of increasing knowledge, holiness, and happiness, he died July 5th, 1835; leaving us, his surviving friends, and the medical profession, a bright example of the accomplished physician and the Christian gentleman, who always preferred the useful to the brilliant, and who, however others may have surpassed him in originality of thought and boldness of execution, was inferior to none in that pure morality, that unsophisticated integrity, that sound discriminating judgment, so essential for the practitioner of medicine; which exalt and dignify the professor, and render him a blessing to the community.

REVIEWS.

ART. XIII.—*Traite Pratique de la pneumonie aux differens ages et dans ses rapports avec les autres maladies aiguës et chroniques.* Par A. GRISOLLE, D. M. P. Médecin du Bureau Central des Hôpitaux et Hospices civils de Paris, &c. &c. &c.

A Practical Treatise on Pneumonia, as it occurs at different ages, and considered in its connections with other acute and chronic diseases. By A. GRISOLLE, D. M. P. &c. Paris, 1841, 8vo. 747 pages.

THIS treatise, devoted to the consideration of one of the most frequent and fatal diseases to which we are subject, is the result, we are told, of six years persevering labour. It contains a summary of 373 cases, observed and recorded by Dr. Grisolle in the Paris hospitals. By far the greater number were cases of primary pneumonia; 69 however were met with in individuals already labouring under some acute or chronic affection. Dr. G. has made use also from time to time of materials derived from other sources, and examined the principal works of ancient and modern writers on the same subject, not confining himself to the office of a mere historian, but endeavouring to appreciate their value, and to point out the fallacy of certain doctrines. Without further preface let us proceed to a more detailed consideration of the disease, and first of the

Pathological Anatomy. The anatomical characters of an inflamed lung are first described under the three heads of engorgement, red hepatization and purulent infiltration. According to Stokes, the stage of engorgement is preceded by one of injection and dryness; but as this view, however theoretically probable, is not satisfactorily established by direct observation, our author adopts the ordinary division, and considers the state of engorgement as the first stage of the disease. In the second stage the lung becomes impermeable to air, resisting and heavy. In one case observed by our author the increase of density was such that the weight was ten times as great as that usually assigned to a healthy lung. Such instances, of course, are rare, and for their production require that nearly the whole lung should be hepatized. The state usually styled splenization, is also considered by our author as dependent upon inflammation, and belonging to this stage. In support of this conclusion he mentions having met with six cases presenting the symptoms of acute pneumonia along with the characteristic physical signs of the second stage, where the only lesion found to account for the phenomena was splenization of the lung. This condition is also sometimes found in connection with ordinary hepatization. After describing with great clearness the anatomical characters of the three degrees of ordinary acute pneumonia, their extent, &c. he goes on to speak of the lobular or disseminated form, so frequently though not exclusively met with in early childhood, in which the anatomical lesions, instead of occupying continuously a certain portion of the lung, are found scattered throughout it, isolated lobules being the seat of the affection. Why this form should especially occur in infancy is not satisfactorily determined. In connection with this form of the disease is noticed ano-

ther described by Andral under the name of vesicular pneumonia, characterized by a number of red granulations disseminated throughout the pulmonary tissue, an appearance which our author has not met with.

He observes further that the researches of MM. Rilliet and Barthez seem to show that this lesion described by Andral is nothing more than vesicular bronchitis, in which a portion only of the pulmonary vesicles being inflamed and becoming distended by a puriform liquid, the lung appears studded with a number of gray or yellow granulations, resembling tubercles, but distinguishable from them by the circumstance that when cut into, they give exit to a puriform liquid and then collapse. This lesion is evidently the same with that noticed by Dr. West of London, in a late interesting report upon the pneumonia of children,* under the title of vesicular pneumonia or bronchitis. Like the gentleman just mentioned he considers the lesion to have its seat in the extreme pulmonary vesicles, a fact which he says may be readily ascertained by tracing a minute bronchus to its termination in one of these little sacs. Dr. West further observes that it is a frequent complication of lobar and lobular pneumonia; but seldom constitutes the chief lesion. He mentions but one instance in which it was not surrounded by some other form of pneumonia.

The much greater frequency of inflammation in the right than in the left lung, seems now well established by a mass of facts. This preference for the right side exists throughout all periods of life. Various explanations of this circumstance have been offered; some supposing that it was to be accounted for on the ground that persons more commonly lie upon the right side, others attributing it to the more forcible use of the right arm. It has also been accounted for by supposing a greater functional activity of the right lung, owing to its receiving a larger amount of blood than the left; but our author observes that the volume of the right lung is also greater, and probably its capacity. He thinks it more natural to attribute the greater frequency of pneumonia on the right side to the difference in volume and capacity between the two lungs, since the greater the size, the more extensive must be the surface exposed to the action of morbid causes. To our minds this is hardly a sufficient reason, unless we admit at the same time a greater functional activity, in the production of which several of the circumstances above mentioned may concur.

In reference to double pneumonia, our author's observations are in accordance with the experience of those who believe it to be a rare occurrence. He found it in the proportion of one to sixteen of the whole number of cases. Of course it is understood that this applies to the lobar pneumonia of adults; that of infants as well as lobular and metastatic pneumonia generally, being very commonly double.

That the lower lobes are more frequently the seat of inflammation than the upper is fully confirmed by our author's observation, in whose cases the proportion was as 4 to 3. Various circumstances however modify this law, particularly the extremes of life and certain epidemic constitutions. Thus in infancy and old age the upper lobe would seem to be equally or even more frequently affected than the lower, and in certain epidemics there is an evident tendency to attack the upper lobes. The greater comparative frequency of inflammation of the upper lobe at the extremes of life than during the intermediate period, is a strong if not a conclusive

* The British and Foreign Medical Review, April 1843.

objection to the opinion that the preponderance of inflammation of the lower lobe in adults is to be attributed to the influence of gravity in favouring congestion of blood, since this force should on the contrary exert its greatest power at those periods of life when the vital force was least capable of counteracting it.

As regards the precise anatomical element of the disease, Dr. G. is of the mind that nothing positive can be asserted. It has always appeared to him that both the vesicles and the intermediate tissue were equally involved when the inflammation was established, and that the distinction of vesicular and intervesicular pneumonia was not borne out by facts. He inclines to the opinion indeed, that the vesicles are the especial or at least primitive seat of the inflammation which then extends to the cellular tissue, and that the independent affection of the latter has not been satisfactorily made out.

If from the primary idiopathic pneumonia of adults, we turn our attention to the secondary form of the disease, we find that several of the laws above mentioned no longer hold good. Thus the preponderance is no longer in favour of the right side, and the simultaneous affection of both lungs, instead of being a rare, is here a frequent occurrence.

Most competent observers are agreed in regarding true pulmonary abscess as a consequence of pneumonia, to be very rare. But a single instance has been met with by our author, whose description of this lesion is based upon twenty-two cases of it, derived from various sources. Having completed the description and pointed out the danger of mistaking collections of pus between the pulmonary lobes, in tubercular cavities, &c. for true pneumonic abscess, he goes on to speak of consecutive and metastatic abscesses, and lastly of gangrene, a lesion which he has never met with amongst those who have fallen victims to acute idiopathic pneumonia.

Having finished the description of the various anatomical characters presented by the inflamed pulmonary tissue, he then passes to the consideration of the concomitant lesions of the pleura, bronchial tubes, heart, stomach, &c. Dilatation of the bronchial tubes was not met with, and he is inclined to think, that in infancy where this lesion appears to be a frequent one in connection with pneumonia, it is less the result of the latter disease than of the bronchitis which so often complicates pulmonary inflammation in children.

Dr. West states in the paper before quoted that he has frequently met with dilatation of the bronchi in children affected with pneumonia, and that it was especially marked in those cases where the inflammation had supervened upon whooping cough. The dilatation, he says, bore no proportion to the amount of fluid contained in the tubes, and hence he thinks that some other theory than that of mechanical distension must be resorted to in order to explain it.

In common with most recent writers of authority, our author regards chronic pneumonia as a very rare affection, having met with but three examples of it. That this lesion should ever have been regarded as frequent is clearly owing to its having been confounded with other alterations, particularly the tuberculous.

The account of the anatomical characters is concluded by a notice of the peculiarities presented in cases of secondary pneumonia. Where inflammation of the lung comes on in the course of another disease, the changes

which the organ undergoes are much the same as when the affection is primary. It much more commonly, however, assumes the lobular form, which among adults is indeed almost always secondary, and amongst infants very commonly so, as where it follows whooping cough, bronchitis, &c. Splenization too, is a lesion more frequently met with in the course of other diseases than as a primary alteration. By Louis, this lesion is not considered as dependent upon inflammation, a view in which our author does not coincide. Dr. G. indeed thinks, as before observed, that like hepatization, it marks the second stage of inflammation of the lung, being met with generally in individuals previously debilitated, where the liquids are more under the influence of gravity, and consequently engorge and macerate the tissues, and thus modify the common characters of inflammation. The facts adduced seem fairly to justify the inference.

Causes.—The etiology of pneumonia forms the subject of the second chapter, where the facts going to show the influence of various circumstances and conditions in its production, are carefully detailed and considered. In estimating the influence of age he has been careful to take not merely the absolute number of deaths at different ages, but has compared them with the corresponding population. Although the disease occurs at all periods, of life even in the fetal state, it is particularly common in children up to six years of age, after which it diminishes very much until puberty, when it again increases in frequency. After thirty years of age it again diminishes until sixty, from which period it becomes very common and is, says our author, the most frequent as well as the most fatal of all the acute diseases of advanced life.

That women are more subject to pneumonia than men, seems well established and is generally admitted. Dr. G. agrees with those who attribute this, not to any special predisposition in the male constitution, but to the difference in the occupation and mode of life of the two sexes, and cites several instances where, when similarly exposed, women were found equally liable to the disease with men.

The opinion that a first attack predisposes to a second, is confirmed in the pages before us, and it would seem also that the inflammation is most likely to occur on the side first affected.

We will not, however, follow our author seriatim in his examination of the probable influence of a variety of circumstances, such as the different professions, climate, season, &c. He has collected together with great care many of the facts already known, bearing upon these questions, to which he has added the result of his own observations. Exposure to cold, atmospheric vicissitudes and sudden check of perspiration, are usually regarded as the great causes of pneumonia. Some, indeed, have gone so far as to assert that cold is the exclusive or almost the sole cause of the disease. Our author strongly opposes this view, and whilst he admits the reality of the influence of cold in certain cases, he thinks that its effects have been very much exaggerated. He could find no sufficient evidence of the operation of cold in inducing the attack in more than about one-fourth of the cases observed by himself, a statement nearly in accordance with the experience of several other writers. He cautions his readers against admitting with some physicians, that, in those cases where the patient cannot recall any particular exposure to cold previous to the attack, this cause may still be regarded as having been operative, since the patients may have neglected to notice impressions which they nevertheless

experienced. Such a mode of reasoning he thinks altogether illogical, and especially inadmissible where the etiology of disease is concerned, since it is here not allowable for us to regard any cause as really operative, save in those cases where its action can be separately traced in that particular instance. But is this really so? are we obliged before we can affirm, for instance, that smallpox is uniformly or very generally contracted by exposure to the emanations from the bodies of those affected with it, to point out the time and circumstances of the exposure in each individual instance? Must we limit the operation of contagion to those cases where the patient can recall the precise time, place, and circumstances under which he was exposed to it? Are we not quite as sure that it is equally operative in thousands of cases where the patients are perfectly unconscious of how the exposure took place? Most certainly we are; and yet we are told that in the case of pneumonia it is unscientific to admit the operation of cold as a cause, except in those cases where the patient can recall precisely as above mentioned, the mode in which he was exposed to it. But it will be said we can readily imagine an individual to be exposed to the effluvia of a contagious disease without his being conscious of it. And may we not imagine the same thing as regards exposure to cold, a check of perspiration, or the like? Certainly we may, and not only so, but we must admit such a result to be of necessary occurrence, so long as the mass of mankind have not leisure to note every change of temperature, every draft of air to which they may be exposed, the impressions produced by them upon the body, its varying susceptibility to their influence from the state of the cutaneous surface, &c. Upon the whole then, we think, that a conclusion the reverse of our author's is the true one, and that it is absolutely unreasonable to limit the operation of a given cause to those cases in each of which its operation can be separately and independently shown. Admitting this, then, let us see what are the positive arguments in favour of giving to the influence of cold in the production of pneumonia a greater extension than Dr. G. seems disposed to assign to it, and to do this we need not travel beyond the line of facts which he has himself so accurately laid before us. In the first place, it is admitted that in almost every case where the action of an exciting cause can be made out, this cause is found to be cold. But in three-fourths of the cases no exciting cause could be discovered, by which, however, the reader must not infer that many of those patients did not themselves think that they were indebted for the attack to a check of perspiration, but only that they could not give such an account of the time, place, and circumstances, as would render the point clear. There is strong presumption then at the very start in favour of the idea that many of these latter cases were brought on by cold, since this cause is not only shown to be capable of producing the effect, but is almost the only one to which an attack can ever be directly traced.

Let us now see how far an examination of the conditions which are treated of under the head of predisposing causes will confirm this view. In the first place it is unquestionable that pneumonia prevails to a greater extent in northern and temperate climates, especially when they are subject to sudden changes of temperature, than in the equatorial regions. This general influence of a severe climate and atmospheric vicissitudes is admitted by our author, but at the same time he is disposed to lay great stress upon certain apparent exceptions. Thus, if we admit that the great prevalence of the disease in Canada and New Brunswick is attributable to

these causes, how, he asks, can we account for its great frequency at Bermuda. Now, supposing that this and other similar objections were well established and not to be accounted for by any local atmospheric conditions with which we are acquainted, they would still be too insignificant in extent, to throw any doubt upon the value of the general law already alluded to. But in truth we suspect that these exceptions are neither so well made out nor so altogether unaccountable as might at first sight appear. As regards Bermuda, we have no documents before us which enable us to speak with certainty; but as regards Malta, to which our author also alludes as an exception, we have before us the recent work of Dr. Davy, Inspector General of Army Hospitals, who endeavours to show that the native population of the latter island in reality suffer comparatively little from pulmonary diseases, and that the troops both here and in other parts of the Mediterranean suffer less than in England, a difference which he attributes to the difference of climate. The greater frequency of these diseases among the troops at Malta than among the native population may be attributed to their dissipation, to severe sentinel duty exposing them to the night air, and generally to exposure to more considerable vicissitudes of temperature than might be expected in so mild a climate, which is subject however in the winter season to such strong winds, as to render it objectionable as a winter residence. We do not wish to lay too much stress upon these statements, but they may serve to show that until the subject is much more thoroughly investigated, we cannot admit the supposed frequency of pneumonia in certain limited localities in rather warm climates, as any argument against the proposition that it is a disease especially frequent in cold and variable climates. Indeed our author, as already observed, does not deny this, but is merely disposed, we think, to lay more stress upon the above-mentioned exceptions than they deserve. Still, however, he thinks that it is rational to attribute the general rarity of pneumonia in the West Indies to their uniformly high temperature, and the almost complete absence of barometric variations; an opinion especially justified by the fact that in one of these islands (Jamaica), where the air is more moist than in the others, and the atmospheric vicissitudes very frequent, pneumonia also is more prevalent than in most other intertropical countries. But pneumonia is not only a disease especially frequent in northern and variable climates, but is vastly more common in winter and spring when the temperature is low and variable, and the winds high and piercing, than in the summer and autumn months. Further, it is most frequent during the prevalence of northerly winds, a fact confirmed by our author's observation in Paris. Finally, in those professions where individuals are exposed to great fatigue and vicissitudes of temperature, pneumonia is two and a half times more frequent than amongst those differently situated in these respects. Upon the whole, then, if we reflect that the attack could, in one-fourth of the cases, be distinctly traced to cold, that this cause is of universal though unequal influence, and that whether in reference to climate, season, or the other circumstances above mentioned, the prevalence of the disease as a general rule, is evidently in a great degree proportionate to the extent and severity of this influence, it seems sufficiently evident that we are quite justified in extending its operation beyond the cases mentioned, and that of the remaining three-fourths, a large proportion were really induced by it. Of course it is understood that by the word cold in the above connection, we do not refer to absolute

temperature merely, but to the effect produced upon the system by a reduction of temperature, which may be favoured, retarded, or prevented, by a variety of circumstances, such as the state of the system generally, of the skin in particular, of the air in reference to dryness or moisture, &c. In extending the operation of cold beyond the limits to which our author would restrict it, we are but supporting what has been sustained by some of the best authorities of former times, and very generally held to be correct, and what moreover would scarcely, we think, have been called in question at the present time, but for a tendency in the minds of some, to require a degree of positive arithmetical demonstration which is not to be looked for in the solution of this and many other questions. We have already extended our remarks rather far upon this subject, or we might observe, that although we fully agree with our author as regards the necessity of a careful interrogation of patients, with respect to the circumstances of their attack, in order to arrive at the truth, it is worthy of attention on the other, that by too great a severity of examination, persons in the lower walks of life may be readily confounded; and again, although some may be disposed from prejudice to attribute their attack to check of perspiration, without sufficient evidence, the reverse of this is true of others, who will often deny some imprudent exposure, which in private practice other members of the family are able fully to establish. Hence it is not impossible that of the cases before us, a larger number might with propriety have been considered as directly traceable to cold. Be this as it may, we will conclude with a few remarks upon two other points interesting in this connection. Our author observes, that since men engaged in rough occupations and exposed to the weather, are most liable to pneumonia, we should expect to find it particularly rife among sailors, who on the contrary, whilst at sea, appear to be remarkably exempt from it. This exemption he is disposed to attribute rather to the regular life which they lead when at sea, than to the diminished influence of cold. When our author has once had personal experience of a sea voyage, we are sure that he will lay less stress upon the first, and also that he will become convinced of what at present he is evidently not aware of, though matter of common observation among seafaring men, that there is something in salt air preservative from cold. Every one under these circumstances has noticed how freely he may expose himself to wind and weather, cold and moisture, with scarcely a fear of these consequences, such as coryzas, sore-throat, or rheumatism, which would most certainly be his recompense for indulging in such imprudences on shore. In connection with this fact then, which we think will scarcely be contested by any experienced individual, the comparative exemption of persons at sea from pneumonia, instead of being calculated to throw any doubt over the opinion that cold is its principal cause, is on the contrary highly confirmatory of it.

Again, although it is granted that, as a general rule, those trades which require great exertion, and also exposure to the weather, offer, as before mentioned, far more numerous examples of pneumonia than those of an opposite description, it would seem that the rule is liable to certain exceptions. Thus it appears by the statement of Parent Duchatelêt, that of 670 men engaged as porters, and interrogated by him on this point, one only had had pneumonia. A similar statement is made by Thackrah, as quoted by our author in reference to bricklayers, founded upon inquiries made among 32 individuals of this trade. As these persons are much exposed

to the weather, some perhaps might be disposed to regard the above statements as good arguments in favour of our author's opinion that the influence of cold has been greatly exaggerated. In this point of view however, such statements should be received with much caution. Numerous circumstances, affecting the mode of life, &c. of particular classes in particular places, the estimation of which requires often the most intimate acquaintance with their social condition, might render such a conclusion totally inadmissible. A mode of life remarkably favourable to health in other respects, might more than counterbalance the injurious influence of exposure. Again, we must consider what is the kind of exposure, whether it is uniform or occasional, of long or short duration, accompanied by severe or moderate exercise, and so on. Now, we well know that moderate exercise and uniform exposure to the weather, are the best prophylactics against the influence of cold, and this is probably one great reason why pneumonia was so rarely found among the persons mentioned. Be this as it may, such limited statistical data, whatever may be their local value, are entirely nugatory with reference to the general proposition in question, supported as it is by such various and accumulated evidence, and confirmed by the common sense of mankind in every age. Finally, it has been said that since persons are so often exposed to cold, or have the perspiration checked without experiencing an attack of pneumonia, we must, in order to explain this as well as the different results to which it gives rise at different times, suppose a certain pre-existing organic disposition in the individual, wherever disease results. On this account, says our author, "I think that M. Chomel is perfectly right in maintaining that occasional causes have only a *secondary influence* in the production of pneumonia. That this affection, like most other internal diseases, results from an internal condition, the essence of which escapes us." That there is much truth in this view, though at the present time, we think greatly exaggerated, we will admit; but as for the conclusion that causes called occasional, and especially cold, exert only a secondary influence, it does not at all follow from the premises. As well might we say in the case of a fractured limb from a fall, that inasmuch as so many persons tumble down without breaking their limbs, the fall is of secondary consequence in such cases. Who does not see that a variety of circumstances affecting both the state of the individual and the mode in which the injury took place may increase or diminish its effects, as well as determine the character of that effect, without admitting for an instant the absurdity of its being any other than the principal cause. In short, there is nothing irrational or inconsistent with facts in maintaining that, whilst cold is the principal cause of pneumonia in a large proportion of cases, its influence is greatly favoured by a number of predisposing and concomitant circumstances, the importance of which we would not depreciate, as for instance an epidemic constitution, which at times appears to be strongly operative.

In addition to the circumstances already alluded to, many other causes of pneumonia are stated by authors; most of these Dr. G. finds unsupported by any positive facts, or exerting a very circumscribed influence.

We now pass to the third article of the chapter on etiology, in which is discussed the subject of secondary pneumonia. It is liable to occur in the course of most acute and chronic diseases. Its extreme frequency in the course of measles, whooping cough and other infantile diseases is well known. It is also met with in adults in the course of typhoid fever, phthisis, organic

affection of the heart, lung, liver, &c. In some instances, as when it follows upon capillary bronchitis, whooping cough, &c., the production of pneumonia can be explained by the direct transmission of inflammation to the substance of the lungs or by their congestion. In most cases however, Dr. G. thinks that we must look for some other influences. Fever and debility are in his opinion the two conditions which play the principal part in the production of secondary pneumonia. Of the two, he regards debility as the most important, and as the one principally operative in the production of pneumonia, in cases of organic affection of the heart, liver, lung, &c. It may act by favouring passive congestion of the lungs, or by rendering the individual more sensible to the ordinary causes of the disease. Along with debility, a long continuance in the horizontal position is also calculated to favour congestion in the most dependent portions, since as the powers of life diminish, gravitation, like the other physical laws, begin to resume their control. In this way the production of secondary pneumonia in cases of typhoid fever and analogous affections, is sufficiently explicable, but in other cases, as for instance, in organic affections of the heart, where secondary pneumonias are very common, it seems to us that we must have recourse in addition to pulmonary irritation and congestion, the presence of one or both of which can scarcely be questioned. In the concluding article of the present chapter, we are told that of 201 patients who were able to give satisfactory information on this point, 76 were labouring under a cough, when the attack of pneumonia commenced. Of these the cough had existed for years in 23, but in the remaining 53 the catarrhal affection was recent, not dating in any case beyond three weeks or a month. Acute pulmonary catarrh then preceded the attack in full one-fourth of the cases, and we are further told that in four out of five of these the pneumonia supervened without the occurrence of any appreciable accidental cause. In a few of these cases, our author thinks that we may attribute the pneumonia to an extension of the bronchial inflammation, though in most cases the latter should be regarded as predisposing merely to the former, by rendering the system more liable to be influenced by the common causes of pulmonary inflammation. Be this as it may, however, if we reflect that cold is the common cause of acute pulmonary catarrh, that the pneumonia supervened rapidly upon the latter in so large a proportion of cases, and that of these but few are included in the category of those regarded by our author as distinctly traceable to cold, we shall find another and most convincing argument for extending very greatly the number of the latter. In short, from whatever point of view we look at this important question, we find the commonly received opinion to be fully supported; and if we have extended too much our remarks upon the subject, our excuse must be found in the fact that within a few years past there is an evident tendency to attack upon insufficient grounds, certain generally received opinions, based upon common observation and sanctioned by the authority of the best practical minds in the profession. We highly approve of the present accurate methods of observation and numerical analysis, and for this reason we do not wish to see them abused, and it does seem to us that in reference to the opinion in question they have been so. Statistical data, insufficient, imperfect and inconclusive, as well as a too exclusive and rigid line of observation, have been appealed to in order to overturn it; and this course, we believe, has been in great measure dictated by an unwarrantable indisposition to admit the truth of conclusions

which have been arrived at by common observation without the aid of statistics. Whatever value we may attach to numbers, we do not agree with those who think, that, on many points at least, general observation, unaided by them, is far more likely to lead into error than truth. Such an assertion appears to us to involve the position, that the Creator has so constituted us, that in the ordinary course of human life, a large part of the conclusions to which we arrive on most subjects, must of necessity be false; a worse than absurd idea, which we would not for a moment entertain.

Symptoms.—Several of the subsequent chapters are devoted to the history of the symptoms, which are most minutely described, and contemplated in numerous points of view. For example, in the section devoted to dyspnœa and accelerated respiration, after describing what he had observed in reference to the character, frequency, &c., of these symptoms, he enters into an examination of certain opinions which have been advanced in regard to them. Thus it has been supposed that they were partly owing to the pain in the side, but on selecting 32 patients of about the same age, and in whom the disease was about equally severe, one-half of whom had severe pain in the side, the other half none or scarcely any, it was nevertheless found that the dyspnœa and frequency of respiration were about the same in each. Even in those cases where the pain in the side is very severe, our author is of the mind that it is not so much to this that the symptoms in question are owing, as to the lesion of the lung itself.

Again, it has been said that pneumonia of the summit gives rise to more severe dyspnœa than that of the base of the lung. To determine this point, our author chose as above, 44 patients of about the same age, and in whom the disease was about equally severe, in one-half of whom the upper lobe was affected, and in the other half, the lower, whilst nevertheless the dyspnœa and frequency of respiration were about the same in all. Of course, the conclusion is obvious, that the seat of the pneumonia could have had but little influence upon the severity of the dyspnœa or the frequency of the respiratory movements. As a general rule, these symptoms were found to be in proportion to the extent of the inflammation. Exceptions to this rule however, were frequently met with, and although some of them could be accounted for, as for instance, when a pneumonia of moderate extent was accompanied by extreme dyspnœa owing to its being complicated with capillary bronchitis, most of them were entirely inexplicable.

In this way each symptom connected with the chest is successively considered, after which the physical signs are taken up, one or two points merely in reference to which we shall notice. First, with respect to the configuration of the chest, we are told that in scarcely any case was any alteration observable, and further, that both the diseased and sound side were equally dilated during inspiration, except in some cases where the pleuritic pain was very severe. This last observation is strikingly at variance with the experience of Dr. Williams, who tells us that, "in the stage of hepatization, the lung being nearly inexpandible, the corresponding walls of the chest are nearly motionless."

Dilatation of the chest would seem to be the necessary consequence of extensive hepatization, and yet this has been denied on the ground of positive observation. With a view to this, our author measured with line

and compass the chests of four patients, and obtained only purely negative results. He soon, however, gave up the investigation, for being obliged to conduct it when the disease was at its height, most of the patients suffered so much as to be unable to preserve the same position for a sufficient length of time, a circumstance calculated to give rise to serious mistakes. Further, he very justly remarks, that "the fatigue of the examination, and the danger incurred by the patients from being a long time exposed to the air, imperatively demanded that he should give up such investigations, which, at last, however curious, were of no practical value." Such a reflection is highly to the credit both of the humanity and common sense of our author, who, it should also be observed, was, notwithstanding the fruitlessness of the above attempts, able to arrive at a positive result by the ordinary inspection of two cases, in which the summit of the right lung was the seat of hepatization, which had evidently occasioned a corresponding dilatation of the anterior superior portion of the right chest. Hence, he does not hesitate to admit that an inflamed lung, independently of all pleuritic effusion, may give rise to a partial or general dilatation of the corresponding side of the chest.

It has been supposed that the vibratory movement of the thoracic walls when the patient is speaking, was more marked opposite the hepatized lung than on the opposite side. On the contrary, however, Dr. G. found that in eight of ten cases where this point was attended to, the thoracic vibrations were either entirely absent, or equally felt on both sides, whilst in the two remaining ones the difference in favour of the hepatized portion was inconsiderable. It would seem, therefore, that as a diagnostic sign, this fremitus or vibration could not be much relied on. In the second article, the general symptoms connected with the circulatory and other organs are described. Among other points we observe that he has found that the urine became precipitable by nitric acid about the time of convalescence. In the few fatal cases however, in which the urine was examined, no precipitate was met with. These results nearly coincide with those obtained by Martin Solon, and confirm the general correctness of the opinion advanced by the latter, that the precipitate in question is indicative of the crisis of the disease, and of very favourable prognosis. We notice particularly our author's confirmation of this conclusion, because doubts have been thrown over their correctness by the statements of a recent writer, whose investigation as regards the urinary secretion would seem to have been of a most elaborate kind.

The symptoms of primary pneumonia having been disposed of, the modification which they undergo when the disease is secondary are next pointed out. Some of these symptoms indeed may be altogether wanting when pneumonia occurs in the course of a severe disease, which has greatly diminished the strength and deadened the sensibility of the patient, whilst others are rendered more obscure. Thus pain in the side, instead of being an almost constant attendant upon the disease, as in primitive pneumonia, seemed altogether wanting in a large proportion of cases, whilst in others it was of less severity, and this as a general rule in proportion to the advanced age and debility of the patient. Dyspnoea and accelerated respiration were nearly always present, but were remarkable in this, that their severity was often out of all proportion to the extent of the inflammation. That a very limited inflammation occurring in the course of organic disease of the heart, emphysema, &c., should give rise to ex-

cessive dyspnœa is easily understood, but it is not to such cases only that the remark applies, for Dr. G. tells us that in nearly every case of purulent resorption, the respiration became very difficult and was extremely accelerated, notwithstanding that nothing more was found after death than a few indurated spots (*noyaux*) scattered here and there through the lungs. The same is said to be true of glanders, &c. It may be doubted, however, how far in some of these cases we are justified in considering the dyspnœa as strictly a symptom of the pneumonia. May it not rather be viewed as dependent upon a disorder of the pulmonary functions, depending perhaps upon the circulation of a poisoned blood, and not necessarily connected with inflammation. Cough is mostly present, but like the pain in the side it is as a general rule less severe in proportion as the patient is debilitated. Sometimes it is so slight and comes on at such rare intervals as scarcely to attract attention. The expectoration is less characteristic, and even the physical signs, though possessing, in our author's estimation, as much value as in the primitive form, are often less marked and sometimes altogether wanting.

The progress and termination of the disease form the subject of the sixth and seventh chapters. Coincident with the resolution of the attack, there appeared some of those phenomena usually regarded as critical, in thirty-four out of one hundred and thirty cases in which the date of the commencement of the attack could be determined, and where all the phenomena throughout its course had been studied. Perspiration was most commonly met with, sometimes alone, at others combined with spontaneous deposits in the urine. Sometimes there was an herpetic eruption about the mouth. Twice our author has met with epistaxis twelve and twenty-four hours before convalescence, and in one case only a critical discharge by stool. The rarity of the latter he attributes to the fact that all the patients had used laxatives or taken the tartar emetic draught, so that it was impossible to tell how far diarrhœa might be owing to an effort of nature, or to the medication employed. He adds:—

"I believe with Baglivi, that if crises are less frequent now than they formerly appeared to be in Greece, it is probably in consequence of the more energetic treatment which is now employed in acute diseases. The great physician just cited, adds, that amongst the country people who use no medicine, crises by sweat, abdominal discharges, the kidneys and other natural passages occur regularly. I believe that this opinion of Baglivi has perhaps some foundation; for having studied the course of pneumonia in ten patients who recovered under a nearly expectant method of treatment, critical phenomena were met with in one half of them; four had copious sweats; one had an abdominal flux; the urine was examined in only one of these patients, and in that case the nitric acid produced a most abundant coagulum. It is probable that the same would have been found true of nearly all the others, at least what has been heretofore stated makes the supposition allowable."—P. 223.

The reader will recollect that it has been already mentioned, that in almost every case where this point had been accurately investigated, the urine of those who recovered was found to precipitate by the addition of nitric acid, near the time of convalescence. Upon the whole, then, there is abundant evidence of a natural connection, either as cause or effect, between certain discharges and convalescence. As for the disease, however, being more likely to give way on particular days, our author thinks such a doctrine altogether inadmissible.

In the eighth chapter, the various complications of pneumonia, as

pleurisy, pneumothorax, bronchitis, &c. are brought under review; after which the different forms of the disease, viz. bilious, typhoid, &c.; the phenomena of convalescence, the causes of death, &c. are considered in successive chapters.

The influence exerted by pneumonia in causing or modifying other affections forms the subject of the twelfth chapter. According to our author's observation, pulmonary consumption does not often follow pneumonia, and even when it does, he thinks that the latter is to be looked upon more as an accidental than a proximate cause. When tubercles already exist, however, he admits that they are sometimes accelerated in their course by an attack of inflammation, though even this result, he thinks, is met with only in the minority of cases. In the greater number of instances, the pneumonia developed around the tuberculous masses is dissolved in a moderate length of time without any aggravation of the primitive disease, a circumstance in which it differs greatly from pleurisy, which is rarely completely cured, when it occurs in the course of consumption. He admits also the truth of the opinion that organic affections of the heart are sometimes owing to pneumonia, but thinks at the same time that such a result is not frequent.

Neither the author nor any of the French physicians, so far as the former is aware, have ever met with cases of general dropsy which could be referred to pulmonary inflammation, which is believed to be capable of giving rise to the former, by Abercrombie and other pathologists.

Treatment. We pass over the chapters on diagnosis and prognosis, and proceed to the last, which is occupied with the treatment. Our author commences by reminding his readers that the history of symptoms, which he had laid before them, was calculated to convince them that the differences presented by the disease under different circumstances of age, constitution, epidemic influence and the like, were such that the same method of treatment could not be applicable to all. Such an opinion, he says, could only be sustained by empirical practitioners, who would reduce the difficult science of indications to the knowledge of a receipt or formula, which they blindly employ in all cases, thinking merely of the local inflammation, and regardless of those features of an attack which stamp its general character in other respects and demand a modification of treatment. The idea that any particular method of treatment, whether that by sanguine depletion or any other, is necessarily applicable to all cases, is altogether false. The capital point in the treatment consists in such a wise appreciation of those individual and general conditions which modify so deeply the aspect and character of diseases, as shall enable us to adapt our remedies with the greatest advantage to the peculiarities of each case.

The principal remedies employed are successively examined, and their influence appreciated by an appeal to the results of our author's own cases, in connection with those of other writers, some of whose statements are amply and freely commented upon.

The loss of blood is first noticed. From the earliest ages, this agent has been generally regarded as the most efficacious; by some it has been carried to an unwarrantable extreme, and by others been as unjustly neglected, so that, says our author:—

“The history of the past teaches us that neither excessive bleeding nor the expectant plan of treatment have met with such marked success as to bring about the exclusive adoption of either the one or the other. A knowledge of

this should preserve humanity from new experiments; but unfortunately the human mind profits little from the experience of the past. Thus Borden predicted nearly a century ago, that individuals would again arise and revive old errors, some of whom would bring into vogue again the excessive use of bleeding, whilst others would proscribe it altogether. Borden was right, for the period predicted by this great physician has arrived. We now see men who, faithful to the practice of *Izès*, like him, bleed beyond measure; and on the other hand those who, flying to an opposite extreme, discard altogether the loss of blood in the treatment of pneumonia, and adopt a merely expectant course. Such exclusive and opposite opinions upon the treatment of a disease so well understood as pneumonia, are deplorable, for these contradictions in practice are among the most powerful arguments employed by those who are unwilling to concede that the science of medicine is possessed of any degree of certainty; but let every one cease to reproach medicine with errors which are exclusively chargeable upon those who are controlled by hypotheses (*medicins systematiques*). In order to contribute my mite towards preserving our successors from such periodical anarchy, I proceed to lay before the reader what, in my opinion, may be expected from the employment of bleeding in the treatment of pneumonia."

Most of our readers, we doubt not, will join us in affixing the seal of approbation to our author's general views on the subject of therapeutics, and it is to be hoped that his contributions in reference to the question before us may have their just influence. But, so long as the human mind remains the same, so long as there exist ardent enthusiasts to be thrown into ecstasies by plausible dogmas, or the stupidly incredulous who are ready to doubt the most ordinary truths, it is to be feared that we shall still witness the same extremes of folly, not merely in reference to pneumonia and depletion, but to other diseases and other remedies.

In the first place our author considers the question of the utility of bleeding in pneumonia; in other words, whether it is preferable to bleed the patient or abandon him to the efforts of nature. For this purpose he compares two series of cases of a mild form of the disease occurring in young subjects, in one of which moderate depletion was resorted to in the early stages, whilst in the other the efforts of nature, aided only by repose and diet, pectoral drinks and rarely a laxative, were trusted to. The result, as might be expected, was much in favour of the former, both as regards relief of symptoms and the duration of the attack. Another circumstance corroborative of this, and absolutely conclusive as regards the importance of early attention and treatment in general, is stated in the chapter on prognosis. It is there mentioned, that whilst of the patients admitted during the first three days of the attack only a thirteenth part died, of those who entered from the seventh to the tenth day, a third to a half died, there being a gradual increase of mortality from the third to the seventh days.

He next goes on to inquire whether bleeding should be practised in all cases, reminding us that although some regard the loss of blood as a specific to be always resorted to, really sound practitioners at all times have admitted that in a large number of pneumonias, sanguine emission could not be resorted to without danger, let the quantity be ever so small. He does not agree with those who proscribe bleeding altogether in infancy and old age, but concludes that it should be more sparingly and cautiously employed at these periods of life. A constitution debilitated by privation, excesses or other causes, as is well known, entirely contraindicates or admits of but a limited resort to depletion and that for the most part locally. In certain epidemics too, bleeding is absolutely contraindicated,

being often followed by the most alarming symptoms. Such consequences were observed by our author in some cases during the prevalence of the last epidemic of *grippe* at Paris. With few exceptions, he thinks that general bleeding is injurious in secondary pneumonia. As regards the presence or near approach of the menses, being, as some suppose, a formal contraindication to bleeding, he thinks the opinion not only erroneous but of dangerous practical tendency. Whenever symptoms demand the remedy we must resort to it, without reference to the menstrual flow, and in this view, he supports himself by the high authority of De La Motte and J. Frank. In cases of pregnancy, also, he says that we should not be deterred by the fear of bringing on abortion, for surely this result is more likely to follow the pneumonia if we allow it to go on unchecked. The fear of taking blood whilst the patient is in a state of perspiration, he thinks also unfounded, and says that he has never seen any unpleasant results follow such a course, an opinion which he also sustains by an appeal to the authority of Frank. Of course, as a general rule, the strength of the pulse, and the more or less inflammatory or typhoid character of the symptoms must be our great guides, whatever other condition may be present.

The question next considered is, whether we must bleed at all stages and in every degree of pneumonia. That the remedy is vastly the most efficacious when early resorted to is unquestionable, but it would be extreme to follow the advice of those who would restrict its use to the first four or five days, from an idea that when expectoration was about becoming established it was no longer demanded or might even be injurious. Indeed it may be resorted to whenever the symptoms demand its use, without reference to the period of the disease. When, however, the disorder has arrived at the third stage, and the greater part of the diseased portion of lung has passed into the state of purulent infiltration, our author has seen the most disastrous results from the loss of blood, and is inclined to proscribe it under these circumstances.

As regards the mode in which blood should be drawn, we are told that a large opening should be made in the vein where the fever is intense, as in this way the fever, oppression and cephalalgia will be best relieved; whilst on the other hand the pain in the side, which may still persist or even be aggravated, will be best relieved by local depletion, and especially by scarified cups. It is also well understood that local depletion must be resorted to rather than general, in patients debilitated by age, privations, or other causes. As regards the quantity of blood to be drawn and the frequency with which the operation should be repeated, no general rule can be laid down, and after examining the evidence of some of the chief authorities from the time of Hippocrates, Dr. G. concludes that sound practical men never thought of laying down fixed rules in reference to these points, but at the same time that as a general rule, while they bled moderately they proportioned the amount drawn to the strength of the patient and the severity of the disease. A few, however, in the present day—witness the pupils of Rasori and Tomasini in Italy, and Bouillaud in France—detract enormous quantities of blood, repeating the operation several times a day during the first few days, and, in a more routine manner than sound practical distinction would seem to warrant. The practice of the Italians our author does not criticise, having no means of comparing its results with those obtained by other methods in the same climate. He freely criticises, however, the evidence on which M. Bouillaud supports the claims of his

method, and arrives at the conclusion that this physician neither cures his patients more quickly or in larger proportion, than his fellow practitioners who pursue a different course.

Our author next proceeds to point out the results of the 'moderate and rational bleedings which he advocates. The amount taken being proportioned to the circumstances of the case, varied from six or eight ounces to ten pounds, not exceeding in most cases however, more than two pounds. The cases are divided into two series, in the first of which are included 50 patients, in whom the disease had not advanced beyond the first stage, and whose average age was 40 years. Of these 50 patients, five, or one tenth, died. In 32 of them, no other active treatment was had recourse to, except a mild laxative and very rarely a blister, whilst in most of the remaining 18, the bleeding, after having been repeated as often as the strength of the patients would admit, was followed by the use of tartar emetic in large doses. The patients who died lost upwards of four pounds of blood each, so that the fatal termination could hardly be attributed to a too sparing use of the lancet. The second group, in whom the disease had advanced to its second stage, comprises 182 patients, whose average age was 35 years. Of these, 32 died, or more than a sixth. Of the 150 who recovered, there were 69 in whom bleeding alone was resorted to, or else merely combined with some mild laxatives or a blister. In all the remaining 81 some antimonial preparation was employed, sometimes as an emetic, more commonly with the view of acting as a contra-stimulant, in which case it was resorted to after depletion, and sometimes not until the latter had been pushed as far as the strength of the patient would admit. Besides the more general result of mortality, duration, &c. M. Grisolle studies the influence of bleeding upon each symptom in particular. In a few instances, pain in the side yielded completely to one or two bleedings, but of the other prominent symptoms, none were completely removed in this way. A comparison of his success, with that of M. Bouillaud, leads him to the conclusion that the excessive loss of blood advocated by this gentleman has led to no more favourable results than that which follows a more rational and moderate course, and in fact that M. Bouillaud has uselessly abstracted two pounds of blood on an average from each of his patients. At the same time, such immoderate depletion, even if merely useless at the time, must, it is reasonable to conclude, be ultimately disadvantageous to many patients.

We now proceed to the treatment of pneumonia by tartar emetic in large doses. M. Grisolle first gives an abstract of the evidence on this point furnished by previous writers from the time of Rasori, from which it is to be inferred that the remedy, given in large doses as a contra-stimulant, either alone or combined with sanguine depletion, has been followed by the most happy effects. He then proceeds to examine his own cases in reference to this point. He has in all 154 cases, in which tartar emetic was given, according to the plan of the Italian school. These he divides into three series. The first contains 44 cases treated exclusively by tartar emetic, without the previous or concurrent use of other active means. The second includes 80 cases in which bleeding had been first employed, but without any marked influence upon the disorder, and where the remedy was administered before the strength of the patient was so far reduced as to render further loss of blood improper. The third series contains 30 cases, where bleeding had been freely resorted

to, but where at the same time the disease had made such progress, and the prostration was such as entirely to forbid further depletion, and the tartar emetic was given as a last resort.

In the first series, the mean age was 37 years, the constitution weak or of only moderate strength in the greater number, and the disease in all of sufficient severity to render the result doubtful. The treatment was commenced at different periods from the second to the ninth day; on an average, about the fourth day. Six grains was usually given in the course of the first day, and the remedy subsequently continued in doses varying from 6 to 12 grains in the 24 hours, either alone, or combined with the syrup of poppies where its first effects had been very violent. The period during which its use was continued, varied from one to ten days, the average length of time being three days and a half; about 20 grs. of the emetic having been given altogether in most of the cases. In all these cases the primary effects of the medicine were experienced, purgation for the most part predominating over emesis, complete tolerance however being established in many after the third or fourth day. Of the 44 cases thus treated, 6 died, or rather less than one in seven. The condition of those who died, however, was not favourable, their mean age being over fifty, and the treatment not commenced till after the fifth day, one of them also being affected with such violent delirium, that the diagnosis was rendered difficult, and the remedy continued for only two days. Still, however, the result of these cases is not such as to establish the propriety of substituting tartar emetic for the lancet under similar circumstances. It should, however, be observed that bleeding was not resorted to in these cases, because the resistance of the pulse was less than usual, leading our author to suppose that not more than one or two bleedings could probably have been practised, and therefore inducing him at once to resort to the treatment above described. Under such circumstances we should have preferred moderate blood-letting, frequently repeated doses of calomel and opium or Dover's powder, with a resort to blisters, where the symptoms would admit of their use. Be this as it may, let us continue to accompany Dr. Grisolle in watching the immediate effects of the antimony upon the principal symptoms. These, i. e., the pain, the respiratory movements, the character of the pulse, of the expectoration, and the auscultatory phenomena, were most frequently improved, or even entirely gave way, within the first or second day after its administration. The rapidity with which these and other symptoms such as headache &c. were relieved by the tartar emetic is very remarkable, especially when we observe that even in a majority of the fatal cases, this happy influence at the start, was also observable. In these latter cases however, it should be noted, that notwithstanding the improvement of certain symptoms, the countenance was still indicative of severe disease, the skin had become more hot and arid, and the examination of the chest showed an extension of the disease.

In the second series, including 80 patients, whose mean age was $35\frac{1}{2}$ years, the pneumonia was severe in all. At the time when the antimony was first given, it had reached in every instance the second stage. Bleeding had been first resorted to during the first 24 or 48 hours after their admission into the hospital, which was on the average, about the fifth day of the disease. The loss of blood however, which varied from one to three pounds, had never arrested the disease, and the state of the pulse was such as to admit of further depletion. The tartar emetic was then given much

in the same way as in the preceding series. The number of deaths were ten, i. e. about one in eight. The same rapid melioration of the symptoms was met with as in the first series, a very great improvement being observable in the course of the first two days, in two-thirds of the cases.

To the third series belong 30 cases, whose mean age was 49 years, and who like the preceding, took the tartarised antimony after several bleedings had been already practised, but with this difference, that further bleeding was inadmissible, the disease being far advanced (10th day), the pulse soft, the strength exhausted, and one half of the cases indeed, in a desperate condition. Of these 30 patients, 18, or nearly two-thirds, died. This result, says our author, speaks much less against the efficacy of tartar emetic than against that of bleeding, which, although freely resorted to as early as the fourth day, did not prevent the disease from making steady progress. He attributes indeed most of the recoveries to the tartar emetic, the administration of which was followed by a rapid melioration in nine cases, where life was in imminent danger.

Upon the whole Dr. Grisolle thinks that the good effects of tartar emetic in large doses, upon pneumonia, are indubitable. Under its use, the mortality was diminished, the most distressing symptoms relieved with unusual rapidity, the convalescence prompt and the strength soon re-established. As a general rule, however, he prefers that one or more bleedings should be first resorted to, as being most likely to ensure a favourable result.

Various conditions of course would contraindicate the use of antimony, such as acute inflammation of the stomach or intestines, chronic diarrhœa, &c. On this account we must be cautious about using it in the pneumonia of consumptive patients, as the tuberculous disease of the intestine might be aggravated and fatal consequences follow. The mere presence however, in ordinary cases, of some diarrhœa and abdominal tenderness, does not forbid its use, the number of stools not being increased by it, but on the contrary often diminished.

Several unpleasant effects, the most common of which is an inflammation, followed by a pustular eruption or even ulceration, of the mucous membrane of the mouth and fauces are sometimes found to follow its use. In fatal cases these pustules have been met with in the œsophagus, but in our author's experience, not beyond the cardia. In a single instance only, he found on the large curvature of the stomach an ulceration which seemed to have been occasioned by the antimony. Our author gives one case in which the most alarming symptom and death followed its administration, and remarks that there are some facts which go to show that at times the system appears to be poisoned by it. This effect is shown, not by superpurgation, but by the symptoms of collapse, a small pulse, hippocratic countenance, &c. As regards the mode of action of tartar emetic, Dr. Grisolle thinks that we cannot attribute its good effects to mere revulsion, to its emetic and purgative operation, for in cases where no evacuations follow its administration, the same rapid melioration of the symptoms is still met with. Indeed it is not reasonable to suppose that so active a substance should operate merely as an evacuant, when it is absorbed and mixed with the torrent of the circulation. That it is absorbed, seems to have been positively proved by Orfila, who in analyzing the principal viscera, especially the secretory organs, of those who died of pneumonia after using tartar emetic in large quantities, has been able to

procure the metallic antimony. He has also found it in the urine both of those who experienced the evacuant effects and of those who did not. We may conclude then that it operates in part by the altered nutrition of the tissues, consequent upon its absorption, though at the same time, its evacuant effects are not to be lost sight of. As regards the intimate nature of the action which it exercises on the tissues, or even which of these is especially influenced by it, we are in entire ignorance. Still, the occurrence of the symptoms of collapse, the complete relaxation and loss of muscular power manifested in cases where the remedy has not operated at all as an evacuant, point out sufficiently a powerful action on the nervous system.

As regards the other preparations of antimony, particularly Kermes mineral and the white oxyde, Dr. Grisolle is of the mind that their good effects in pneumonia have been much exaggerated by some, and that although sometimes useful, they should never be substituted for tartar emetic, except in cases where the digestive organs are the seat of some serious disease which the latter might aggravate.

Besides antimony, several other articles have been employed as contra-stimulants, particularly acetate of lead, digitalis and prussic acid. After making a few observations upon these, Dr. Grisolle goes on to say a few words in reference to the alterative method of treatment, under which head he speaks of calomel. He describes the mode in which it is administered by English practitioners, but declines expressing an opinion as regards its value, either alone or combined with opium, as he had never seen it used, and did not like to try it himself, not being conversant with any positive fact in its favour. At the same time, he calls upon English physicians to publish their experience on this point, taking care to study the question upon those exact medical principles which are necessary in the present day, in order to convince men of well constituted minds. This we should be glad to see; but if Dr. G. means at the same time to have it inferred that at present the English and American practitioner can appeal to no such evidence in favour of the utility of calomel as would be convincing to a man of sound mind, we think he is mistaken. What, indeed, is the ground upon which the utility of tartar emetic is mainly established? Certainly, not the diminished mortality, for this varies so little from what is met with under other methods of treatment as to bring no conviction to the mind. In fact, the mere comparison of mortality in different series of cases, in order to determine the value of a particular remedial measure, even when every effort is made to have the different series, as far as possible, properly comparable, by taking into account age, sex, constitution, severity of disease, &c., is to our minds the most unsatisfactory and perplexing of all methods; for there still remain such a number of modifying circumstances which cannot be appreciated, as to leave the result altogether doubtful, except under particular circumstances, and where the difference of mortality is very great. What then, we repeat, is the ground upon which the value of tartar emetic is mainly established? Certainly on this, that the force of the principal symptoms yields very generally and very promptly to its use. Now, although we grant that it would be satisfactory to know more accurately how often and how promptly the relief of particular symptoms takes place after the use of calomel, we utterly deny that numbers are necessary to determine the general fact; for, were this indeed requisite, we could feel confidence in the use of scarcely any remedy

which we possess, and on similar principles we should be led, on all ordinary subjects of common observation, into the most narrow-minded and desolating scepticism. Before leaving the subject, it may be well enough to say, that in this city calomel is not usually given in as large doses as that described by our author. With us, one or two grains, or even a fraction of a grain frequently repeated, and combined with opium, or Dover's powder, is commonly found sufficient. Of course, no sensible man would think of trusting to it to the exclusion of bleeding, or indeed regard it in any other light than as one among a number of efficacious remedies, especially applicable under certain circumstances and in certain cases, but by no means equally serviceable or even proper in all. After a few remarks upon the evacuant plan of practice, the various adjuvants, such as diet, position, drinks, baths, narcotics, &c., are next introduced to notice.

Opium in moderate doses he thinks may always be resorted to with safety to procure relief in cases where the pain in the side persists, the cough is very troublesome, the patient restless and unable to sleep, even if the fever should be severe. He has never observed suppression of expectoration or increase of fever, or cerebral symptoms from its use. A warm bath is sometimes very serviceable, especially in the latter stages of the disease, where the patient is convalescing, but the skin continues hot and dry and the pulse frequent. Its effect is to dissipate the acrid heat of the skin, and restore its suppleness and moisture.

In common with several French writers, Dr. Grisolle is disposed to proscribe almost entirely the use of blisters in the treatment of pneumonia. They were applied to the chest 12 or 24 hours before death in 4 fatal cases, and several days previously in 8 others; also in 26 cases which recovered, in 5 of them a little before the end of the sixth day, and in the others when the disease was on its decline, on an average about the eighth day. In but four of these cases was any amendment observed to follow the application, and even when it did so, our author is doubtful how far it could be attributed to the blister. Moreover, the duration of the disease did not seem to be shortened in consequence, or a fatal termination prevented. In a former part of the work, however, when speaking of the doubtful propriety of bleeding in the last stage of the disease, he recounts the history of an individual who was almost expiring when he first saw him, the pulse being nearly insensible, the extremities cold, &c., to whom he administered tartar emetic in large doses, and at the same time applied a very large blister. By these means a most unlooked-for amendment took place; in 15 hours the pulse had acquired both fulness and resistance, the strength was increased, the countenance more natural, and the expectoration much improved. It was now thought that bleeding might be useful, and unfortunately 12 ounces of blood were drawn, when the alarming symptoms returned, and the patient died in three hours. Certainly in this case the fatal termination cannot be attributed to any want of efficacy in the blister, to which, on the contrary, the previous amendment was probably, in great degree, attributable, an amendment too which in all likelihood would have been followed by recovery, had not blood unfortunately been drawn. Whilst, however, Dr. Grisolle is not disposed to concede to blisters any decided efficacy as a general rule, he admits that they are serviceable in one condition, and that is where, during convalescence, pain in the lower part of the chest still persists, notwithstanding previous depletion; for this pain, he says, is generally dissipated under their use. Had the

condition, of their application, as understood with us, been appreciated and acted on, we cannot help thinking that more extended good effects would have been observed. We allude especially to reserving their application to that period when the system is brought to what is called the blistering point, where the heat of skin has subsided, and the pulse has lost its resistance. Be this as it may, it will be difficult to convince practitioners in this country that they have not repeatedly witnessed the good effects of blistering, especially in cases where the disease, although partly overcome, is not rapidly advancing towards resolution, or when from the advanced stage of the disease, or other causes, the strength of the patient will not admit of depletory measures.

We will not follow our author in his observations upon the treatment of particular symptoms, the modifications requisite in the bilious and other forms of the disease, &c., but must bring our remarks, already perhaps too much extended, to a conclusion. The work closes with some just observations upon the general considerations which should guide our treatment, and a summary of its result in the cases before us. We are reminded that the physiognomy of the disease varies greatly; that no one treatment is applicable to all, but must be modified to suit particular circumstances and individual peculiarities; that at times, especially during the prevalence of an epidemic influence, it is requisite that the physician should have his mind less occupied with the mere inflammatory nature of the disease, than with the presence of certain symptoms, which give to the attack a peculiar aspect and demand a special treatment. Such is the case in bilious and typhoid pneumonias, when the symptoms indicative of these several conditions predominate; and here, says Dr. G., we have a new proof of the necessity in practice of recollecting that all diseases which are characterized by a common lesion, are not on that account to be regarded as identical and treated in the same way. The general condition of the system must be our great guide in acquainting us with the proper indications for treatment. The plan of practice to which he gives the preference in the main, consists in abstracting blood until the hardness or resistance of the pulse is reduced, and then resorting to tartar emetic before the strength is so far reduced as to render further bleeding improper. A combination of general and local bleeding is to be preferred, the latter being most serviceable in relieving pain in the side, especially when performed by means of cups. The mortality among the patients treated after this manner was only one in eight. Sometimes, however, it was found necessary to abandon this method, and resort to evacuants, or tonics or stimulants, as the peculiarities of the case might require. We have already alluded to the two prominent circumstances in which the practice usually adopted with us differs from the above, viz: in a resort to calomel and opium, and blisters, not by any means to the exclusion of tartar emetic, which however is commonly given in smaller doses, sometimes alternated with the calomel, and occasionally abandoned entirely to give place to the latter, which in some cases is decidedly preferable. Amongst children, indeed, were we obliged to confine ourselves to one or the other, we should choose calomel as being the most generally serviceable, and subject to the fewest inconveniences.

In conclusion we would observe, that the work of M. Grisolle is most complete, and must be highly serviceable as a book of reference. We say this, because the work is too voluminous to admit of its being read by the generality of medical men. It contains however, upon every question, a

vast body of information, well arranged and digested, where the reader will find a history of opinions and statements given forth by previous writers, accompanied by a full and rigid criticism, and tested by an analysis of the facts within the author's reach. With a few of his conclusions, as the reader has noticed, we do not feel disposed entirely to coincide; but as a general rule he has shown great caution and a sound discriminating judgment in appreciating his own observations as well as the statements and opinions of others. If he has occasionally attributed to a few numerical data a force and conclusiveness in reference to their bearing upon certain questions, which they do not really possess, he seems in the main to be well aware of the abuses to which the numerical system is liable, and to have been careful to avoid them. Thus in the chapter on treatment, instead of being doomed to the perusal of a mass of numerical details in reference to series of cases not properly comparable, and from which no satisfactory conclusion can be derived, we find merely a comparison of the mortality, duration of disease, &c., in different series of cases, where the severity and stage of the disease, the age of the patients and other circumstances were more or less similar, and further the free admission that in certain cases the results are still to be received with caution, owing to inappreciable differences, as for instance of epidemic constitution or the like. We cannot conclude without expressing the gratification which we have felt in the perusal of M. Grisolle's work, the main feature of which is that it contains a summary of our knowledge, with a careful examination of the facts and statements on which this is based, the whole completed by a rigid appeal to the author's own experience. Such works are greatly to be desired at the present time; and although the author may succeed in bringing out no striking novelty, he may have the satisfaction of knowing that he has assisted in sifting the true from the false, and in settling medical opinion on true grounds.

T. S.

ART. XIV.—*Traité du Ramollissement du Cerveau*. Par MAX. DURAND-FARDEL. Ouvrage couronné par l'Académie Royale de Médecine. 8vo. pp. 526: Paris, 1843.
A Treatise upon Softening of the Brain. By Dr. MAX. DURAND-FARDEL. Paris, 1843.

THE following question was proposed by the French Academy of Medicine: "What are the different varieties of softening of the nervous centres, its causes, symptoms, and appropriate treatment?" To this question M. Durand-Fardel succeeded in furnishing the most satisfactory answer, so that his essay does not come before us entirely upon its own merits, but bearing the imposing *imprimatur* of the most eminent medical association in Europe. But, perhaps the very fact that the work was prepared for contesting a prize which was to be awarded on a particular day, may have obliged its author to deal too rapidly with the valuable materials he had collected. Perhaps the very profusion of cases which he had to analyze, may have made him somewhat inattentive to style and logical arrangement. This want of clearness and precision, not so much in particular passages as in the general conduct of the work, may possibly prevent the author from receiving full justice in the abstract it is proposed to give of his treatise.

tise. We trust, however, that the importance of the facts and views to be presented will be distinctly made out through all the imperfections, as well of the original work, as of this notice.

In English medical literature there is hardly any complete dissertation upon softening of the brain. Even the excellent article upon the subject by Dr. Carswell, in the "Cyclopedia of Practical Medicine," is little more than a sketch, whose outline and principal features are copied from the portraits of the French pathologists. The latter observers have taught us nearly every thing that we know about cerebral softening, and to one of them we owe the present work, in all respects the most complete that has been written upon the subject.

M. Durand-Fardel, in attempting the solution of the very obscure questions presented to him, has generally taken for his guide the light of nature as revealed in well-observed facts. So far as he has adhered to this plan, his conclusions seem to be irresistible; where he has abandoned it for hypothetical reasoning, he may have made some shrewd guesses, but has not established any valuable truth. Of 126 cases narrated, with more or less details, in the body of the work, the greater number were observed by the author himself. In collecting data for the elucidation of any point, he has gleaned his materials from every authentic source; and where these were wanting, has given the opinions of the most distinguished writers in connection with his own. We may, therefore, look upon the treatise before us as embodying, both in fact and hypothesis, every thing which is known or maintained in regard to softening of the brain at the present day. With these prefatory remarks we pass to the proper subject of this notice, and, following the arrangement adopted by our author, consider, first, the *pathological anatomy* of acute softening of the brain.

This lesion most frequently exists in the convolutions of the brain, but is very rarely found limited to the cortical substance. The latter appears to be its ordinary starting place, whence it subsequently invades the deeper portions of the organ. Yet it is occasionally confined entirely to the central or medullary matter. The extent of the morbid change is infinitely variable; sometimes it is found involving the whole cerebral surface, and sometimes occupying a space not larger than a pea.

The consistence of the diseased portion may vary from that of a firm jelly to the least cohesion compatible with organization. It is important not to mistake for a morbid change the natural softness of the base of the brain, and especially of those portions of it which lie on the sphenoidal wings.

In acute softening a red colour is observable in the first stage, and is succeeded by yellowness at a later period of the disease. The redness may be due to vascular injection, (which is rarely seen except in the medullary substance,) to bloody infiltration, or to an imbibition of blood, which shows itself almost exclusively in the cortical substance, and imparts a ruddy tinge to the whole extent of the softening. Each of these conditions must have been preceded by vascular injection. The redness, then, may be looked upon as the effect of inflammation, especially since it is accompanied, in the beginning, by swelling, adhesion of the membranes, &c. When a patient survives the acute stage, and dies after the disease has become chronic, this redness no longer exists. Hence the division into red and white softening by some pathologists who studied the lesions of the disease without regarding their duration or the symptoms with which they severally coincided. Of 120 patients affected with softening of the

brain, and observed by M. Durand-Fardel, all who died within a month from the first attack, except two only, presented the redness here described as characteristic of the acute form of the disease. By uniting his cases with those of other observers, it appears, that out of more than 200 there were only three of recent date, in which neither redness, yellowness, nor suppuration could be found, and only four chronic cases which offered any redness at all. The yellowness is not caused, as some have supposed, by the presence of pus; it is merely a sign that where it exists there has been blood, just as the same colour indicates the same mode of production in the resolution of ecchymoses, and around the little clots of blood which we find in encephaloid tumours.

When the superficial portions of the brain are the seat of acute softening, the cortical substance swells, so that, on removing the skull-cap, the membranes are found tense, and under them the convolutions appear flattened. In chronic softening, exactly the reverse takes place—the brain contracts upon itself.

Although the membranes, and the cerebral substance directly in contact with the softened portion, sometimes present the signs of great vascular injection, the remoter parts of the organ appear to share very little in this condition. Even the arachnoid is rarely inflamed, except within the limits just alluded to.

SYMPTOMS OF ACUTE SOFTENING OF THE BRAIN.—Cases of acute softening are separable into two groups; the one, which may be called *apoplectic*, marked by a sudden or rapid onset, with weakening or abolition of the functions of the brain, such as occurs in cerebral hemorrhage; the other characterized by a gradual increase of symptoms, such as belong to meningeal inflammation, and which may be termed *ataxic*. But since the anatomical lesion is, in both cases, the same, we are forced to infer that the same physical condition of the brain may or may not be attended by evident symptoms, according to circumstances which we have no means of appreciating. Nor does either of the above forms maintain its original characters throughout the disease. The one beginning suddenly with an apoplectic seizure, may subsequently present a gradual decline of power in the functions of the brain; the other may at first be slow and insidious in its progress, and abruptly terminate with all the symptoms of apoplexy. The first variety is, however, by far the most frequent, especially in persons above sixty years of age. Thus of 137 cases, 79 began suddenly. Of 29 patients in whom the attack was of this sort, 11 only had not reached their 60th year; while 24 out of 32 belonging to the other class were under that age, and 6 of them under 20 years of age.

Let us now consider the symptoms more in detail; and, first, the derangements of *motility*.

In nearly every case of softening of the brain there is paralysis, usually limited to one side of the body, or to a single limb. Whether complete or not, it is sometimes accompanied by contraction, which may be very slight, or so considerable as to be overcome with great difficulty. This state is not to be confounded with mere stiffness of the joints, which may exist upon the sound side; nor yet with voluntary, or automatic flexion of the limbs. Instead of paralysis, there may be convulsions simulating epilepsy, or tetanic contraction, or merely a tremulous state of the muscles. The decay of muscular power commonly keeps pace with that of the mind. The prevalent opinion that contraction of the limbs, with rigidity, is nearly

constant in this disease, is unsupported by the experience of M. Durand-Fardel, who has reached the same conclusion as M. Rostan, namely, that this symptom occurs only in a minority of the cases of softening of the brain.

The *sensibility* of patients labouring under the apoplectic form of this disease can hardly be determined with any degree of certainty. How is it possible to distinguish involuntary movements from such as are induced by pain, or the cries extorted by suffering from the inarticulate sounds which patients in the condition supposed address to those around them? Another source of error is in the movements produced through the excitomotor system, movements which the experimenter indeed causes, but of which the patient is unconscious. The loss of sensibility is, however, generally in proportion to that of motion, but is never observed independently of the latter, in this disease, as it so frequently is in affections of the spinal cord. Certain modifications of sensibility sometimes accompany the onset of the disease, such as numbness like that produced by a blow in the course of a nervous trunk, a tingling, or prickling in the face or the extremities, or a deep-seated coldness in the paralyzed limbs, or in those which are about to be affected with paralysis.

Headache, which is so common in chronic, is much less frequent in acute softening. It offers no peculiarity either of type or situation.

The *mind* presents some striking and interesting phenomena in acute softening of the brain. Sometimes a few days before the attack there seems to be a certain dulness or confusion of ideas, the disposition is irascible, or prone to sadness. When the progress of the disease is slow, the mental faculties grow weaker and weaker, until at last the patient seems quite besotted, or sinks into coma. In other instances, on the contrary, there is a wandering and excitement of ideas, with loquacity, or at times a more tranquil delirium, showing itself in acts rather than in words. All these, and similar symptoms, have been ascribed by writers of high respectability to inflammation of the membranes of the brain; but on reviewing the cases of acute softening collected by the author of the work before us, there would seem to be no good reason why these symptoms should be referred to the trifling and circumscribed injection of the arachnoid or pia mater, rather than to the more considerable lesion of the instrument of thought itself.

The *expression of the face* often furnishes important indications in the disease under consideration, and deserves a careful study in patients of advanced age. Sometimes may be remarked a fixed look of surprise, or of indifference, sometimes one of dulness or fatuity. In other cases there is a remarkable mobility of feature, and an expression of wildness or wandering. It is of consequence to note the earliest departure from symmetry in the face. When one eyebrow is slightly raised and the mouth a little drawn towards the same side while the patient is speaking or laughing, or when the eyelid of the opposite side veils the eyeball, as if it were heavier than usual, there is strong reason to apprehend the imminence, if not the actual commencement, of softening of the brain. It is proper to remark, however, that in old persons the mouth is usually drawn towards the side on which the teeth are least numerous. When, instead of simple paralysis, there is permanent muscular contraction, the mouth is often drawn *towards* the affected side. A similar observation is applicable to the strabismus which occurs in this disease. A profuse discharge of glairy

mucus from the eyes and mouth frequently accompanies the other symptoms, diminishing and increasing with them.

The *speech* is altered materially in this disease: there may be merely a certain thickness of speech, or, vocal articulation may be impossible. Sometimes the sense of the meaning of words is lost, while the faculty of articulating is preserved, the patients uttering a string of incoherent words, with singular volubility. Occasionally all power of uttering even the natural cries seems extinguished, and the most perfect, and apparently obstinate, silence is maintained, even in the absence of coma.

The *state of the pupils* does not throw much light upon the nature of the cerebral lesion, although our author thinks that when they are contracted there is more reason to suspect hemorrhage, than softening of the brain. It should be borne in mind, that in old persons a contracted state of the pupils is not only very common, but quite consistent with perfect health.

Vomiting is a symptom sometimes observed at the commencement of an attack, but seems to depend upon accidental circumstances, such as repletion of the stomach, &c. Occasionally deglutition is rendered impossible by paralysis of the pharyngeal muscles. Retention of urine is a common symptom in this disease, and one which the practitioner should never neglect. The same caution may be given in regard to the gangrenous spots which are apt to form on parts of the body subjected to pressure, such as the sacrum and the heels.

The *duration* of acute softening in fatal cases appears to be from one to thirty days. Out of fifty-nine patients, however, forty-three died before the ninth day, and nine only survived the twentieth day.

The *diagnosis* of acute softening of the brain from hemorrhage of that organ, is that which it is of the greatest interest to determine. The apoplectic form already described, presents peculiar difficulties to the observer, inasmuch as it is, like true apoplexy, preceded by a congestion of the brain, which may of itself give rise to nearly all the symptoms of either disease. Even the paralysis is not an exception to this statement, it may accompany a *coup de sang*, as well as a real extravasation of blood upon the surface, or into the substance of the brain. It has been said that if the mind is unaffected by a sudden attack of hemiplegia, we may be sure that the disease is softening, and not hemorrhage, of the brain. But although we may be warranted in presuming that such is the case, we cannot positively assert that it is so. There are facts on record to prove that the contrary is sometimes true. If after the symptoms of an apoplectic fit the paralyzed limbs are affected with twitching, or for a time recover a portion of their power, there is every probability that the attack is not hemorrhagic.

It has been maintained that *permanent muscular contraction* is an infallible sign of softening of the brain. Now it appears from an analysis of forty-seven cases of acute softening with paralysis, reported by MM. Rostan, Andral, and Durand-Fardel, that muscular contraction with rigidity existed in thirteen of them only; while in twenty-nine cases of cerebral hemorrhage the same symptom occurred nineteen times, that is to say, in a much larger proportion. In all these latter cases the hemorrhage broke into the ventricles. The first notice of this important fact is due to M. Boudet, and from it our author deduces the following proposition. Since ventricular apoplexy cannot take place without giving rise to unequivocal

signs of compression of the brain, we may conclude that when muscular contraction with rigidity is accompanied by slight apoplectic symptoms, there is sufficient ground for suspecting the existence of cerebral softening.

The *ataxic form* of the disease under consideration may be mistaken for *meningitis*, on account of the delirium which is common to both. So far as regards persons of advanced age, there is every probability that in them delirium arises from the former, rather than the latter disease, which is rare in the decline of life. The loss, and the perversion of muscular power are not unfrequent symptoms of meningeal inflammation, but when these are confined to one side of the body they afford sufficient reason for suspecting a lesion of the substance of the brain itself. When an attack of paralysis comes on during delirium, it may almost certainly be attributed to softening.

CHRONIC SOFTENING OF THE BRAIN.—This resembles acute softening, in at first consisting merely in diminished cohesion of the cerebral substance, but is distinguished from it by the absence of redness. Inflammation of the brain but rarely gives rise to suppuration, except in cases of wounds of that organ, and disease of the cranial bones. When the brain suppurates, the pus is collected in abscesses easily distinguishable from the disorganized substance of the brain by the creamy consistence and the greenish-yellow or grayish-white aspect of their contents. In proportion as the softening becomes chronic its inflammatory hue disappears, and blood-vessels can no longer be readily detected in it. They are first lost sight of in the centre of the diseased portion. Chronic *pulpy softening*, (or that of M. Durand-Fardel's first stage,) may be met with in any portion of the brain, but least frequently upon the surface of the convolutions, owing to the readiness with which they yield to the disease. Its consistence is always least at the centre of the degenerated part; sometimes it is as fluid as thin pap, so that when deeply seated, its fluctuation may be distinctly felt upon the surface of the brain.

The *second stage* comprises peculiar alterations in the cortical, as well as in the medullary matter. The former of these presents upon the surface of the convolutions, and sometimes dipping between them, certain yellowish plates (*plaques*), about the size of a half dollar. They have a flabby feel, but are much more coherent than the healthy substance of the brain. They do not seem to be composed of distinct fibres, the most perfect among them resembling softened leather. Blood-vessels can rarely be traced in them; but, generally, their surface, under the pia mater, is covered with a delicate cellular film in which a fine vascular injection may be detected. They are commonly not quite as thick as the cortical substance. The pia mater can usually be stripped off without lacerating them, but sometimes the adhesion of that membrane is so strong as to resist separation, and then the plates are either torn, or dragged away entire. There is often found around them a degree of softening, and sometimes true chronic ulceration with loss of substance, either limited by the thickness of the cineritious, or encroaching on the medullary matter.

M. Durand-Fardel deserves the credit of having first described this interesting lesion with minuteness, although it had been previously figured by M. Cruveilhier in his great work on Pathological Anatomy.

The second stage of softening in the medullary substance is called by our author *cellular infiltration*. At this point in the progress of the disease, the medullary pulp disappears, to a greater or less degree, and is

replaced by a loose cellular tissue containing, in the irregular cavities formed by its meshes, a turbid whitish liquid, generally holding in suspension flakes of disorganized brain. The seat of this alteration is in the central portion of either hemisphere, in the *corpora striata*, or in the cerebellum. Its volume may not exceed that of a filbert, or it may occupy the whole extent of two lobes. The cellular tissue concerned in this lesion appears to be nothing more than the cellular "woof" of the brain dissected or left bare by the dissolution of the proper substance of the organ. This tissue is sometimes very soft, and sometimes so dense as to offer a resistance like that of fibrous texture. The latter condition indicates a tendency to induration which is the only sort of cure possible in organic changes so far advanced. The contained fluid bears a strong resemblance to lime-water, and is entirely distinct from pus in all its physical qualities. The brain around these cavities is generally soft, or pulpy, of a white or yellowish hue, and more or less vascular, but never of an uniformly rosy tint.

The *third stage* is marked by the absorption of the fluid just described; the cellular tissue, becoming condensed, lines an empty cavity, or forms the centre of a cicatrix made by the contraction of the surrounding portions of the brain. This is not properly a stage of *softening*, but rather the process of its cure.

SYMPTOMS OF CHRONIC SOFTENING.—It is needless, upon the present occasion, to insist upon the obscurity which still invests the study of cerebral symptoms. Our just appreciation of symptoms generally, depends upon our means of examining into the condition of the organs, upon our knowledge of their functions in health and in disease, and of the morbid changes which occur in them. But, as regards the brain, it is inaccessible to all our methods of exploration during life: of its physiology we know next to nothing; its very anatomy is unsettled; its organic alterations are sometimes revealed by no disorder of function; and its functions may be wholly perverted without the least change in its structure, so far as the assisted senses can discover. It would be, therefore, unwise to consider the symptoms presently to be detailed, as necessarily belonging to the disease under consideration; this latter has been too recently a subject of serious and separate study, to permit our pointing out the link which connects its lesions with its apparent symptoms, and that too, were it even possible to remove the difficulties already suggested. Cases of chronic softening may, however, be arranged in several groups according to the symptoms which accompany their commencement. The first of these, in the order followed by M. Durand-Fardel, is *gradual and progressive softening*. In this form, the patients, who are generally advanced in life, begin to complain of uneasiness; of numbness about the head; and then of headache which is usually frontal; they are apt to faint or fall from vertigo. This condition may last for several years, but sometimes after a few months, or even days, new and more characteristic symptoms appear. These are numbness of the fingers or toes, and a prickling of the skin as if ants were running over its surface. These symptoms usually affect only one side of the body. They may precede or accompany the headache, and, with it, are often sufficient to indicate softening of the brain, especially of the form we are now considering. Then succeeds feebleness of the limbs: the foot is dragged in walking, and the hand lets fall the lightest bodies. Oftentimes, at this stage, the fingers cannot grasp any object

unless it is in direct contact with the palm of the hand; as soon as this contact ceases, the fingers remain fixed and motionless as before. In certain cases muscular contraction with rigidity comes on, first showing itself in the hand or elbow, and then extending to the whole of one side, but varying in degree from time to time, until it becomes permanent. Coincident with this contraction of the limbs, the mouth is drawn towards the paralyzed side: the corresponding eye remains half open, and becomes inflamed. There is a peculiar look of dulness, astonishment, or indifference; and, at an advanced stage, there are fits of weeping, or sobbing, without apparent reason. From the very commencement of these symptoms the memory begins to fail, the judgment loses its accuracy, and the understanding its perception of ideas. The sight grows dim, and the sense of touch dull; the speech is embarrassed either from forgetfulness of words, or from the control of the tongue being lost, and the voice becomes singularly monotonous. With the progress of the disease the paralysis may be complete, and accompanied with a total loss of sensibility. Then the headache usually diminishes, but the limbs may still be racked with the most acute and lancinating pains. The mind may fall into a state of perfect dementia, while in some cases its faculties seem unimpaired when all the other functions of the brain are at an end. The patients lose the power of retaining their excretions, sink into marasmus, and die either from gangrene about the sacrum, or from hypostatic, or intercurrent, pneumonia.

The earlier symptoms of the *second or apoplectic form* of chronic softening have already been described while treating of the acute stage of the disease. But when the patient survives the sudden attack, and the disease becomes chronic, there is, in many cases at least, a progressive amelioration of all the symptoms. The mind may gradually recover its clearness if not its original vigour; the speech may be partially restored; the paralysis may diminish. When the power of using the limbs returns, it is almost always preceded and accompanied by a lively, and sometimes painful, prickling sensation in the palsied extremities. These pains, and tingling sensations, when well marked, always indicate cerebral softening. If they are perceived immediately after the apoplectic fit, we may infer that the latter is due to a primitive softening; if they do not come on till later, there is reason to think that they depend upon a consecutive softening of the brain around a clot, or hemorrhagic cavity.

The *third form* is that in which patients affected with chronic softening die with well-marked symptoms of acute disease of the brain. In these cases an examination after death reveals only the lesion peculiar to the chronic affection, and nothing which goes to explain the symptoms of the final attack.

The *fourth or latent form* of the disease. Softening is occasionally met with in dissecting the brains of patients who during life had never presented any symptoms referable to cerebral disease, or who at some remote period may have had such symptoms for a time, and subsequently enjoyed uninterrupted health. The brain is in this respect like the organs of the trunk, which may be extensively diseased without betraying the change, by any modification of their functions. They, especially, who are used to examine the bodies of old persons and children, must be frequently surprised at meeting with a large number of organic lesions of which no symptoms existed during life.

DIAGNOSIS.—Chronic softening of the brain is most likely to be con-

founded with apoplectic cysts, or tumours of the brain. In regard to distinguishing it from the former of these, M. Durand-Fardel informs us that he finds great difficulty. This difficulty seems to be insuperable; for both diseases own the same origin, namely, cerebral congestion; the symptoms of their attack are in many cases identical; and in their progress the one may arise to complicate the other. Indeed until our acquaintance with cerebral pathology shall be perfected, there can be little practical good in making refined distinctions between these two diseases, since we have no more efficient weapons with which to combat the one than the other. The remarks which have already been made respecting the diagnosis of acute softening, and the sketch of the symptoms of chronic softening, must suffice, for the present, upon this head.

The phenomena depending on tumours of the brain are fortunately rather more susceptible of distinction from those to which softening of that organ gives rise. We say *fortunately*, because the latter disease offers many more chances of recovery to the patient than the former, and neither prohibits, nor entirely discountenances, judicious treatment. From a detailed analysis, by M. Durand-Fardel, of sixty-eight cases of tumours in the brain, we extract the following propositions. Headache occurred much more frequently in these cases than in those of cerebral softening; in the former too, it was intense, extorting loud cries during the paroxysms; besides which it was usually confined to one side of the head. In sixteen cases, headache was the only symptom until within a few days of the patient's death. Six times, there was, in addition to the headache, a gradual loss of vision, without paralysis, except in one case where the paralysis supervened a long time after the blindness. Frequently there was feebleness or some other alteration of the sight. These symptoms certainly present a strong contrast to those of chronic softening, and especially as regards the one last mentioned. Our author declares that he knows of no case of complete loss of vision which could be attributed to softening of the brain. The other symptoms were, for the most part, common to the two diseases, although in the cases of cerebral tumours, the convulsions were often unaccompanied by paralysis. If, then, we should observe a violent headache limited to one side of the head, with or without vomiting, with blindness or disorders of vision unaccompanied by paralysis, we may not indeed be certain that these symptoms are caused by a tumour in the brain, but we may feel sure that they are not the effect of softening. If, however, in addition to these signs, there should be paroxysms resembling epilepsy, without paralysis in the intervals between them, the chances would be in favour of the existence of a tumour, especially if the mind and the speech were unaffected.

CURABILITY OF SOFTENING OF THE BRAIN.—It has been stated, in the remarks upon acute softening, that (except when suppurative) it differed from the chronic form in the absence of disorganization. Now it must be admitted that so long as a tissue preserves its organization it may return to its natural condition without retaining any trace of the modifications it has undergone. Thus there can be no question that inflammations of the brain, caused by wounds of the head, and which must represent the first stage of softening, have been entirely cured. Our author asserts his conviction that many cases of sudden congestion of the brain, of apoplexy, and of delirium, which have been arrested in their

progress by judicious treatment, have really been instances of the cure of cerebral softening.

When the chronic affection exists under the form of a pulpy softening without redness, it is in a state of transition between the acute form, and the advanced stages characterized by the yellow plates, or by cellular infiltration. There is every reason to believe that the former may persist for many years, during which time the symptoms it has occasioned undergo a sensible improvement. The state of the cerebral substance, in this form of the disease, does not admit of its return to a normal condition; but since the lesion of the part ceases to advance, and it is, so to speak, isolated, by its very want of a circulation, from the healthy portion of the organ, there appears to be no reason why it should not remain permanently stationary, without interfering materially with the functions of the brain.

After the disease has reached the stage of cellular infiltration, it may, judging from the evidence furnished by pathological anatomy, be cured in one of three ways. 1st. The cellular tissue which lines and partially fills the cyst becomes harder: some points in it, indeed, seem fibrous and almost cartilaginous. The spaces between the meshes of the cellular tissue, enlarged by a hardening of the latter, or by commencing absorption, are filled with serosity, or with the lime-water liquid already described. The adjacent substance of the brain is found healthy, or a little hardened, or slightly softened, and usually without change of colour. 2d. The portion of the brain presenting the cellular infiltration is absorbed, leaving a circumscribed cavity, with white, and more or less hardened walls, containing serosity or a liquid resembling lime-water, and situated in the interior of the brain or opening outwardly. 3d. This cavity, if it be small, may contract and become obliterated, leaving in its place a white, stellated, or linear, cicatrix.

The *causes of death* in persons affected with softening of the brain are to be found usually in some accidental complication rather than in the original disease, although the influence of the latter may be the remote cause of such complication. The brain, the lungs, or the skin may be the seat of the fatal attack. Sometimes, although rarely, a fit of apoplexy brings the disease to a sudden termination; more frequently there is inflammation of the brain around a chronic softening. Acute meningitis may supervene, or an exhalation of blood "into the cavity" (?) of the arachnoid. It is usual to attribute the death of persons with softening of the brain to serous infiltration of the pia mater, or to a chronic meningitis, of which it is said this infiltration, and the whitish spots and thickening of the arachnoid, are the evidences. M. Durand-Fardel is of opinion that these appearances are no more morbid than are the milky spots in the heart, the adhesions of the plenæ, or those of the gall-bladder, and asserts them to be quite common in old persons who have died of any disease other than one of the brain.

Hypostatic pneumonia is a frequent cause of death among patients affected with softening of the brain. This is an inflammation of the lungs produced by an accumulation of blood in the most dependent part of those organs, in persons of feeble powers of life. The symptoms to which it gives rise are often so indistinct as to create no suspicion of its existence: thus, a change in the expression of the face, dryness of the tongue, and weakness of the pulse, may be the only signs of the insidious attack, signs which are by no means pathognomonic of inflammation of the lungs. The

physical indications are quite uncertain; and there is rarely any dyspnœa, or peculiar expectoration, or stitch in the side. If, indeed, the congestion which always precedes the more active disease comes on rapidly, we may have all the familiar phenomena of asphyxia.

Death frequently occurs, in the disease we have been studying, from gangrene of the skin over the sacrum or the heel. It is important to bear in mind that, in this disease, the recuperative powers of nature are so feeble, that we have nothing to expect from them, and but little from art. When once the gangrene has commenced, its course can rarely be arrested. Hence the precept to protect the parts exposed to injury from pressure, and to examine them carefully from time to time.

The PROGNOSIS of cerebral softening might very well have been considered under the head of the curability of the disease, but we prefer following the arrangement of subjects adopted by our author. The prognosis made in this disease will depend upon the views entertained in regard to its nature. If it is to be looked upon as a specific lesion, or a sort of gangrene of the brain, as some writers teach us, it would be almost a waste of time to study it minutely. But if it is nearly always an inflammatory disease, and in most respects resembling diseases of that class, there is no reason why it should not, like them, be curable. It is certainly a very serious affection:—serious on account of its seat, of the rapidity with which it sometimes runs its course, and on account of the disorganization which it produces in the most important organ of the economy. But why should it stand alone amongst diseases not characterized by malignant degeneration with the fatal stamp of incurability upon it? It has never hitherto been so thoroughly studied, its true nature has never before been so nearly demonstrated; and it is not right that we should now inflexibly hold opinions in regard to it, which our ignorance of its history may once have justified. After all, this question can only be settled by a more minute and accurate study of the morbid anatomy of the disease, and a correct reference to its several lesions of the symptoms observed during life. One obstacle to harmony of opinion upon this subject has, we think, been removed by M. Durand-Fardel, since he has proved that many cases of cerebral disease where recovery has taken place, and which have been looked upon as meningitis, congestion, &c., were in reality cases of softening of the brain. It may, however, be proper to state here, that M. Rostan, who first explored the intricacies of this disease, and who, at the conclusion of his original researches, saw no reason to doubt the possibility of its cure, has recently declared, that with twenty years of additional experience, he now considers the malady as “infallibly fatal.”

In an elaborate chapter on the *nature* of cerebral softening, our author passes in review all the theories and hypotheses which pathologists have built up or imagined to account for the phenomena of the disease. It is an instructive chapter; for it shows the prodigious activity of scientific men in patching up the showy monuments of their inventive genius, and their amazing contempt of that slow and laborious process which alone has ever added a single shrine to the temple of science. M. Durand-Fardel, not content with establishing, or rather with stating what was already established by his cases, treats his readers to some specimens of his skill in hypothetical reasoning. It is needless to say that in this respect he is on an equality with his rivals, and that his labours are attended with neither

more nor less important results than theirs. In criticising their speculations he is much more successful than in confirming his own.

The *remote* or *predisposing causes* of softening of the brain are but little understood. It is commonly looked upon as a disease peculiar to old age; but while it is true that by far the greatest number of its victims are among the aged, yet it destroys many both in childhood and in adult life. It has, sometimes, been attributed to a feeble state of health, and to decrepitude, but our author conceives this opinion to be erroneous. In his own experience he has met with a great many cases in persons of previously excellent health, and in some who were fleshy, or who had what is called the apoplectic constitution. M. Rostan, Crawford, and other writers rank amongst the predisposing causes all that promote or determine congestion of the brain, and, no doubt, with good reason, so far as in matters of this sort reasoning from analogy, or *a priori*, can be called good. Nevertheless, cases of cerebral softening in old persons have been observed, in which neither the influence of such causes, nor of any others, could be distinctly made out. An examination of this point in a more extensive series of cases is greatly to be desired.

TREATMENT.—If it be true that vascular congestion in every case precedes the disorganization of the brain which has here been considered, there must, doubtless, be a period, however brief, in which active treatment may prevent the development of the disease. Again, when softening has once commenced, it is still susceptible, in almost every stage of its progress, of undergoing certain modifications, after which the symptoms of the malady may gradually disappear, or be replaced by an “infirmity,” perfectly compatible with life and tolerable health. The important fact to be constantly borne in mind, is, that when softening is once developed, it does not increase in extent, and may therefore, under favourable circumstances, go through the several processes peculiar to its mode of cure. We may consider it as proven, that nature sometimes cures this formidable disease. But how shall art imitate her model? Experience has not yet informed us; and until the answer of this only legitimate oracle shall be rendered, we must content ourselves with applying to the treatment of this disease the methods which are obviously suggested by the knowledge we have of its pathology.

A. S.

BIBLIOGRAPHICAL NOTICES.

ART. XV.—*An experimental and critical inquiry into the Nature and Treatment of Wounds of the Intestines.* By SAMUEL D. GROSS, M. D., Professor of Surgery in the Louisville Medical Institute.—(West. Journ. Med. Surg., Jan., Feb., March, 1843.)

WITHOUT being of very common occurrence in civil practice, wounds of the intestines are nevertheless of very great interest to the surgeon, as well from their danger, as from the various methods which have been recommended, and the difference of opinion which exists, on the subject of their proper treatment. In the paper before us, we are furnished with the results of upwards of seventy experiments upon dogs, performed with a view to elucidate the process employed by nature in repairing wounds of these parts, and determine the value of the different methods of treatment which have been proposed, as well as with an account of the researches of those who have preceded the author in the same field of inquiry.

The mode of reparation in wounds of the intestinal canal, as well as the steps employed by nature in disposing of the ligature when applied to them, are now well understood. When a small round cord is drawn tightly around an intestine, results nearly similar to those produced by a like application to an artery will occur—the mucous covering being completely divided, with oftentimes a partial division of the muscular and cellular coats. If this operation be done on a living animal inflammation soon follows, lymph is deposited upon the peritoneal surface around the parts embraced by the ligature, while ulceration takes place in those pressed upon by it, and it soon falls into the cavity of the intestine, and is discharged with the fecal matter. The period required for the process to be completed is of course variable, the size of the ligature, the degree of tightness with which it is drawn, the thickness of the gut, the age, and state of the general health, all affecting it. In one experiment of Prof. Gross, the ligature, which was round and narrow, had by the third day found its way through more than one half of the circumference of the tube, while in another animal, which died from the effects of the operation thirteen hours later, the cord had escaped into the bowel, and was found at the distance of several feet from the point of injury, and in both instances an abundant deposit of lymph had re-established the continuity of the canal.

When a ligature is applied firmly to the edges of a small wound precisely similar effects are produced, though here, from the cord embracing a larger surface of intestine, reparation takes place more slowly than in the former case.

When the wound is left to nature, or when sutures are employed, the process of reunion is the same. In both cases the consequent inflammation gives rise to an effusion of plastic lymph, and generally to an adhesion between the injured gut and the neighbouring parts. From what he has noticed in dogs, Dr. G. believes that in eight out of ten cases there is an attachment of the omentum to the edges and surface of the wound, though probably, he thinks, this occurrence is less rare in man, from the epiploon in him being much smaller than in the lower animals.

The mode in which the ligature is thrown off in the interrupted and continued sutures of course varies. Where the cords are cut off close, experiments are detailed confirmatory of those of Smith, Thomson, Travers, and Cooper, to show that they invariably drop into the intestinal canal and are discharged; but if, on

the other hand, the extremities are left hanging from the external wound, they will be discharged outwardly.

In regard to sutures, the conviction arrived at by Dr. Gross as the result of his numerous experiments is, that there are but two which should ever be thought of in the management of wounded intestine, viz. the continued and the interrupted, on which point most practical surgeons will fully coincide with him. The continued or glover's suture, is perhaps the oldest of the methods proposed for the treatment of wounded intestine. The mode of application of this suture is so well known as to preclude the necessity of any description of it here—we will only remark that the needle should be introduced throughout at the same distance from the edge of the divided surface, and that great care should be taken to place the stitches at such distances one from the other as will effectually guard against the occurrence of *fecal* effusions. A caution given by Dr. Gross is not to draw the thread so tightly as to give the lips of the wound a puckered appearance—an occurrence which he believes calculated to interfere with the adhesive process, and with most other writers of the present day, he advises the ends of the suture to be securely fastened, either by a knot, or by passing them under an adjoining loop, after which they are to be cut off close to the gut, into the interior of which, as has been already observed, the thread employed ultimately finds its way by ulceration. The reduction of the prolapsed fold after stitching is of course to be made in the gentlest manner, and the outer wound is afterwards to be carefully closed.

The results of the experiments of Dr. Gross are very favourable to the use of this suture as well in longitudinal as in transverse and oblique wounds; they were seventeen in number, and in no one of them did the operation prove fatal to the animal. "In eight the needle was carried through the whole thickness of the bowel, and in five, the everted mucous membrane was pared off on a level with the surrounding surface; in eight, the suture was introduced through the fibrous lamella, or between the muscular and mucous coats; and in one, through all the layers of the tube, except the peritoneal. It is worthy of remark that the caliber of the tube was not sensibly diminished by the operation in any of the experiments.

"Of these three methods, that of introducing the suture through the cellulofibrous lamella is the least objectionable, as it enables us to bring the serous surfaces into more accurate apposition. When the needle is conveyed through all the tunics, there must necessarily be some degree of puckering, whereby the mucous lining will be forced between the lips of the wound, if not beyond the level of the peritoneal membrane. By such an arrangement the adhesive process would be retarded, and if the stitches were to lose their hold, or if the bowel should not become glued to the neighbouring parts, *fecal* effusion might occur, followed by its whole train of evil consequences."

For the employment of this suture we have the high authority of Travers and Larrey, and Sir A. Cooper was favourable to it, though like Baron Larrey he believed the danger to be increased by cutting it off close to the bowel, and advised the end of the ligature to be brought out at the external orifice. The principal advantages which it offers are, that it is easily, and quickly performed, and that it closes very firmly the wounded part. Five cases are cited in the paper, which the author states are the only ones known by him to have been communicated to the profession, in which the continued suture was employed in the human subject. These are quoted from Travers of Lisbon, Glandorpins, Charliar and Larrey, and of these five, one died. With a little research other recoveries of this description might easily be adduced.

The interrupted suture is also of great antiquity. The most important circumstance in its application is to place the stitches sufficiently near each other to prevent the escape of the *fecal* or other matters. In fourteen animals experimented upon with this suture, two were fatal, one from peritonitis and the other without obvious cause. In thirteen of these the suture was carried through all the tunics, and in one through the cellulofibrous lamella. Five cases are

appended from authors in which the treatment with the interrupted suture was attended with happy results in the human subject.

The method of joining together the two ends of a divided bowel by introducing the superior into the inferior portion of it and retaining it there by means of a suture as done by Ramdohr, or the looped suture of Le Dran, the suture "à points passés" of Bertrandi—where the thread is passed through and not over the lips of the wound, the method of the "Quatres maitres" viz. that of stitching the divided ends of the bowel over a piece of the trachea of a calf or other animal, a cylinder of isinglass, of elder wood, of pasteboard, or other like substance, as well as that proposed by Palfin and advocated by J. Bell and Scarpa, of securing the edges of the solution of continuity in the intestine at their centre by a simple slip knot, and after bringing out the ends at the external opening attaching them by adhesive strips to the parietes, are all methods which time and again have exercised experimenters. Instances too may be cited, (and where may not exceptional cases be adduced to support any mode of practice in medicine), of the success of each of the modes of treatment enumerated, upon the human subject, as well as upon animals. Lavielle, Pitcher, and others have succeeded with that of Ramdohr, Le Dran, and Palfin, have each reported cures by their methods, while Duverger has succeeded with that of the "Quatres maitres," but notwithstanding the ingenuity with which all these have been urged, and the hecatombs of animals that have been slaughtered to show their little danger or their peculiar adaptation to the end for which they are employed, the slow and imperfect adhesion to which they give rise, the danger of breaking up the adhesion upon the removal of the threads, the difficulty of effecting what is proposed, or their total inefficiency to prevent fecal effusions, sufficiently explains the causes of their rejection.

Of the more modern methods, most which have been proposed will we fear share the fate of those that have been already enumerated. Johert, in wounds involving the entire circumference of the gut, dissects off the mesentery for several lines from each extremity of it, and after attaching a couple of loops to the upper and inverting the coats of the lower end of the bowel, passes an armed needle from within outwards through the doubled wall of the lower end, and then by pulling gently at the threads gradually drags down the upper into the lower portion in such a way as to bring the two serous surfaces of the bowel into contact, when having restored the bowel into the abdominal cavity, the ligatures are twisted and brought out at the lower angle of the wound. Lembert advises the sewing up of the wound by a sufficient number of interrupted sutures passed so as to include only the muscular and peritoneal coats, and carefully inverting their edges before the tightening of the knots. Denans recommends the introduction of hollow metallic cylinders into the intestinal tube with the view of keeping more effectually in contact the serous surfaces of the divided ends of the gut. Rayhard proposes to produce a temporary obliteration of the wound, and to maintain the intestines in close contact with the walls of the abdomen, and for this purpose introduces a ligature armed with two sharp needles through a light and smooth wooden cylinder into the intestine, where it is fastened by carrying the needles from within outwards through the lips of the wound about a quarter of an inch from its margin. The extremities of the ligature, twisted together, are then passed by means of a crooked needle through the muscles of the belly, at a little distance from the edge of the outer opening, the bowel reduced, and the thread drawn upon by the surgeon until the injured part is placed in apposition with the abdominal parietes; the ligatures are then separated and tied over a small compress lying parallel with the inner lips of the wound. Amussat, Thomson, and Choisy, have each recently proposed modifications of the method of Ramdohr, but the same objections urged against the earlier of the proposals we have noticed are equally applicable to all these, and but few who have examined with care the methods we have alluded to, and none, we think, who have seen much of this class of injuries in the human subject, will be likely to practise them. The murderous cruelties which we have witnessed, and which it is well known are constantly performed by M. Amussat and his clique upon the inferior animals,

should be alone sufficient to make one wary in giving trial to any proposal in operative medicine emanating from such source.

Upon the subject of the treatment of wounded intestine there are some points in which we do not entirely coincide with Professor Gross, and upon which, as being likely to lead in our opinion to a false prognosis, and erroneous practice, we beg to offer a remark or two. Speaking of the dilatation of the outer wound in cases of injury to the intestine unaccompanied with protrusion, and of the necessity in some cases of resorting to such practice, he says:—"Let us, for the sake of being more fully understood, suppose a case: A man, after having indulged in a hearty repast, receives a penetrating wound in the abdomen from the thrust of a dirk or knife; the bowel is pierced, or, it may be, nearly divided, and there is a copious discharge of faecal matter, both externally and into the peritoneal cavity, as is evinced, in the latter event, by the excruciating pain, the gastric oppression, and the collapsed condition of the sufferer. Here the most prompt and decisive measures must be resorted to, or the person will perish from peritoneal inflammation with as much certainty as if his skull had been fractured and a portion of his brain let out."

"By the above procedure, which, under the circumstances pointed out, I should never hesitate to pursue, the patient is not placed in a worse condition than a female who has undergone the Cæsarian section, or a person whose abdomen has been ripped up in the first instance; recovery from both of which is not, as is well known, of unfrequent occurrence." "The truth is, the fatality of penetrating wounds of the abdomen has been greatly overrated. Injuries of this kind have been a sort of bugbear with surgeons and physicians, not so much from what they themselves have witnessed as from what they have heard from others; and hence a prejudice has arisen against the infliction of wounds and even punctures upon the peritoneum which has 'grown with our growth and strengthened with our strength' until it has become almost impossible to eradicate it."

The opinion is generally held that faecal effusion is not a common consequence of penetrating wounds, and that it can rarely occur except where the bowel is at the moment full, and the wound extensive; and notwithstanding the experiments upon animals cited by Dr. Gross to support the contrary belief, we think Mr. Travers has conclusively proved its general correctness by reference to the examinations of cases of this kind which have occurred in the human subject—a method which, to our mind, is more conclusive than any experiments upon brutes. Mr. Travers too has adduced experiments to prove this point which are at variance with those of Dr. Gross. The latter gentleman we are led to believe from what is stated, though on this point he is not explicit, opened the abdomen, dragged out the intestine, wounded, and returned it, while the former simply plunged a sword into the bellies of the animals selected, thus making an injury precisely similar to those met with in the human subject. But admitting effusion into the peritoneal cavity to happen in a case where the external opening was of small size, how is it to be ascertained? It must be a point of extreme difficulty if not altogether impossible to determine certainly the fact, and most assuredly, the occurrence "of excruciating pain, gastric oppression, and a collapsed condition," are not alone to be depended on for it, for all of these we have seen occur in an extreme degree in a wound not affecting the intestine. But even were effusion *known to be* present, in case the injury had been made by a thrust with a long and sharp instrument, as a dirk, a small sword, or a bayonet, would it not be well to caution the practitioner against a resort to the practice, as in all of these instances it would be probable that several folds of intestine had been wounded, the whole of which could not be secured, and any attempt to do it would but aggravate the sufferings, and hasten the end of the patient. Where there is a copious discharge of faecal matter externally, sound surgery altogether forbids a search after the wounded bowel for the purpose of ligaturing it. All persons so wounded who are left to nature do not invariably die, any more than do all those who meet with fractures of the skull and losses of portions of the brain. Rare though they be, yet any treatise on military surgery will show instances of cure after both the one and the other injury.

That a patient, by dilatation of the wound under such circumstances, is not placed in a worse condition than a female after the operation of the Cæsarian section, is another position that we cannot admit—the wound of the intestine vastly aggravates the case. Recoveries too after this very formidable operation, or after having had the abdomen ripped up, cannot be said to be frequent, even under favourable circumstances. Michaelis has collected the reports of two hundred and forty-eight cases of the Cæsarian operation, of which one hundred and forty proved fatal; and Dr. Churchill asserts that the operation was done three hundred and sixteen times between the years 1750 and 1841, with a mortality of 52.8 per cent, and it is matter of notoriety that many unfortunate cases have occurred which have never been noticed in print. Small wounds of the peritonæum, as those made with a penknife, or in the operations for hernia, or tapping, generally do well, but as a class they must always excite the most serious apprehensions, and when extensive, or accompanied with a wound of the small intestine, a fatal termination of them should be given as the common rule of prognosis, and the recoveries be looked upon as the exceptional cases. We are led to suspect that the views of Dr. Gross on this point may possibly have had some bias from the happy results he constantly observed to follow his experiments upon brutes. What he has himself stated in another part of his memoir (p. 208) in regard to the comparative results of operations upon animals and upon man, appears to contradict, in some degree, the assertion made in this place, relative to the unfrequent occurrence and little danger attendant upon abdominal wounds, and expresses so well our own views that we cannot do better than repeat it. “It should not be forgotten that an operation which is perfectly successful upon an inferior animal, may, when performed upon the human subject, be followed by the worst consequences. In the one, disease is exceedingly rare; in the other, it is not only frequent, but capable of assuming a vast variety of forms, and of sapping the foundations of life when least expected. In the one, peritoneal inflammation is not only uncommon, but, when developed, seldom attains any considerable height; in the other, it is not only easily excited, but extremely apt to terminate fatally.”

G. W. N.

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- ART. XVI.—1. *The Annual Report of the Court of Directors of the Western Lunatic Asylum, to the Legislature of Virginia, for 1842*, pp. 62.
 2. *The Annual Report of the Physician and Superintendent of the Eastern Asylum, in the city of Williamsburg, Virginia, for 1842*, pp. 38.
 3. *Twenty-sixth Annual Report of the state of the Asylum for the relief of Persons deprived of the use of their Reason*, pp. 28.
 4. *State of the New York Hospital and Bloomingdale Asylum, for the year 1842*, pp. 32.
 5. *Sixth Annual Report of the Trustees of the Vermont Asylum for the Insane*, pp. 16.
 6. *Tenth Annual Report of the Trustees of the State Lunatic Asylum at Worcester, December, 1842*, pp. 116.

THE season for the publication of the annual reports of the institutions for the Insane in the United States, has again passed, and copies of those documents from all the Asylums at which they are issued, with but two exceptions, are now before us:—they are richly laden with the results of the experience of another year; they bear evidence of advancement in a knowledge of the disease upon which they treat; they are well adapted to the dissemination among the community of more accurate ideas in regard to the most unfortunate malady which “flesh is heir to.” Several of them were noticed in the last number of this Journal. A brief review of the others, the titles of which are above, will now occupy our attention. Before proceeding, however, to the prosecution of this object, we wish to point out an error which, though of no great magnitude, is of sufficient importance to justify a rectification.

In the Report of the Maine State Asylum, we observe the phrase “*Mr. Tuke*,

the venerable physician of the York Retreat, England;" and in several other documents, the gentleman therein mentioned has been spoken of as *Doctor Tuke*. Samuel Tuke is not a physician, but a Tea-merchant in the city of York. He has long been connected with the Retreat, as a manager, and hence has been enabled to prosecute those observations the valuable results of which have been imparted to the profession.

1. The legislature of Virginia, during its session for 1842, made an appropriation of \$22,000 for the support of the "Western Asylum," and another of \$24,000, for the erection of three additional buildings to that establishment, one for the accommodation of forty-five female patients, and two others,—“lodges”—for sixteen patients, each. These buildings have been commenced, and are to be completed on or before the first day of July, 1844.

The following are the statistics of this asylum for the year 1842.

	Men.	Women.	Total.
In the Asylum at the commencement of the year,	58	41	99
Admitted during the year	47	6	53
Whole number	105	47	152
Discharged	17	9	26
Died	13	2	15
Eloped	1		1
Remaining at the end of the year	74	36	110
Of those discharged, there were recovered	13	6	19
“ “ improved and unimproved	4	3	7

The discrepancy of numbers between men and women arises from the fact that the accommodations for the former are much more extensive than for the latter. The departments will be nearly equalized by the construction of the edifices afore-mentioned, the necessity of which appears urgent, inasmuch as the number of female applicants waiting for admission is “upwards of eighty.”

Of the 152 patients, but 21 had been insane less than one year, and 22 from one to three years, the remainder having been so during different periods, from three to thirty years. The Superintendent urges upon the legislature the importance of authorizing a discharge of harmless incurables, to make room for cases of recent origin. So long as the accommodations are insufficient for all the applicants, the arguments in favour of this course are too obvious to require repetition.

In an article on “Medication” Dr. Stribling deplors the ignorance of medical men “*in the general*,” in regard to Insanity.—“There is one evil,” says he, “resulting from this want of information, of so frequent occurrence and so mischievous in its character, that we cannot, even at the risk of being deemed presumptuous, refrain longer from raising our voices against it, and calling upon physicians throughout the commonwealth to halt in a course which but too often aggravates, and that in a ten-fold degree, the horrors of a malady for the relief of which their interposition has been sought. It rarely happens that a patient is brought here, after having been previously under the care of a medical practitioner, in regard to whom it cannot be said that he has been ‘*well bled, blistered and purged*.’ So indiscriminate and universal is this practice, and to such an extent is it frequently prosecuted, that it numbers among its victims those labouring under every form, degree, and duration of insanity! But those who are most exposed to it, and in the greatest degree injured by it, are individuals afflicted with active mania. Here the practitioner rarely fails to attribute the usual consequences which result alone from nervous excitement, to inordinate arterial action.” Dr. S. recognizes exceptions to this rule, but in all cases to which it is applicable recommends the use of cold applications to the head, warm pediluvia, a gentle laxative and narcotics. “As a general rule,” he proceeds, “we prescribe what would be equivalent to 100 drops of laudanum, to be repeated at intervals of six hours, and the dose to be cautiously increased until a decided effect, either for good or harm is produced. * * * After narcotics have been used for a season, we combine with these some mineral tonic, and have often found the most beneficial effects to result from the combination.—Iron in

some one or other of its preparations, is usually prepared for this purpose." The Report contains a detail of several cases which have been treated in the Asylum and a valuable article on "Simulated Insanity." We regret to learn that the health of Dr. Stribling is in a precarious state, and trust that its renovation may still secure, for years to come, his valuable services to the institution with which he is connected.

2.—In the Eastern Asylum, of Virginia, the number	Men.	Women.	Total.
of patients at the commencement of the year was	60	37*	97
Admitted during the year	13	14	27
Whole number	73	52	125
Discharged	11	6	17
Died	5	10	15
Remaining at the end of the year	57	36	93
Of the discharged there were Restored	10	5	15
" " Unimproved	1	1	2

Of thirteen recent cases admitted between the 1st of July 1841 and the corresponding day of 1842, twelve were discharged restored. After some remarks upon this result, and the introduction of the per centum of cures in some other asylums, the Superintendent, Dr. Galt, says, "I am led to believe that there is no insane institution, either on the continent of Europe, in Great Britain or in America in which such success is met with as in our own." Granting to the Dr. that this inference is derived from fair and accurate premises, such as would place the institution under his direction upon an equality with the others which are the subjects of comparison, we must still be permitted to believe, and we think the Dr. will himself coincide with us in the opinion, that the experience of but one year, is altogether inadequate to justify a conclusion so general and so positive.—He cannot be unaware of the fact that numerous contingencies, entirely beyond the control of the Physician, may materially effect the proportion of cures, and that though they may combine in his favour one year, and raise that proportion to its maximum, their influence may be opposing the next, and diminish the number restored to its minimum. Dr. Bell, of the McLean Asylum, who deprecates the division of patients, in statistical reports, into "old" and "recent," says: "During some years, as in 1838 for illustration, we have had so entirely the co-operation of friends in a due perseverance, that we should have been able to report the recovery of 100 per cent. of cases presumed to be recent."—This result exceeds that of the Eastern Asylum by $7\frac{7}{10}$ per cent. Again, says the same writer, "the records of this Asylum justify the declaration that *all cases certainly recent*, that is whose origin does not either directly or obscurely run back more than a year, recover under a fair trial. This is the general law; the occasional instances to the contrary are the exception."

Now, one reason why the institutions for insane do not report from year to year a greater proportion of cures of the "recent" cases treated in them, is found in the fact that those cases have not all been submitted to "*a fair trial*"—some of them being prematurely removed, and others having been received but a short period, perhaps but a few days previous to the time of making the report. These disadvantages did not exist in the cases reported by Dr. G.—since they all recovered with the exception of one who died, and since his report was made six months after the expiration of the year during which they were admitted. Notwithstanding these evidences of dissimilarity of condition in his objects of comparison, we grant, what cannot be denied, that the success of the Dr. was eminent, and sincerely hope that it may continue to be no less so in future years.

In a long article on "Treatment," it is stated that the principal medical agents relied upon in that asylum are "narcotics, tonics, purgatives, counter-irritants and baths." Opium is more used than any other article of its class. The

* These numbers are as they are given in the report. There is a discrepancy of one, as will be seen upon adding the two items.

maximum dose is from six to twelve grains, and that of either of the salts of morphia from two to three grains three times a day. "We have also employed opium," says the Report, "in a manner which we believe is peculiar to ourselves; that is, mixing it with tobacco and causing the patient to smoke it." We very much doubt whether this method of administration will be found as useful as those already in vogue. Sulphate of quinine is the most used as a tonic, and blisters on the back of the neck as counter-irritants. Much benefit has been derived from the use of the shower and the warm bath, the former in the morning the latter at night.

The remainder of the Report is occupied with remarks upon the various subjects usually discussed in documents of the kind. The whole indicates familiarity with most of the standard authorities upon insanity, and a laudable zeal in the undertaking in which its author is engaged. We cannot, however, in justice to the writer or to ourselves forbear to notice what we think must be evident even to the superficial reader, that it is written in a style too desultory, ideas very remotely connected with each other either by analogy, association or induction, being placed in such juxtaposition or succession as is only justified by one of those forms of relation.

3. At the "Asylum for the Relief of Persons deprived of the use of their Reason," near Frankford, Pa. the number of patients	Men.	Women.	Total.
at the commencement of the year was	29	29	58
Admitted during the year	12	13	25
Whole number	41	42	83

Discharged during the year, 32; Died, 5; Remaining at the end of the year, 46. Of those discharged, 10 were restored, 6 much improved, 4 improved, and 12 unimproved. Of those remaining 3 were restored. The report of the physicians is brief, but contains judicious remarks upon the "Supposed cause," its duration, and forms, and upon recoveries, discharges, and deaths.

4. The Reports of the New York Hospital and the Bloomingdale Asylum are, as usual, combined, the latter institution being a branch of the former.

The number of patients in the Bloomingdale Asylum,	Men.	Women.	Total.
January 1st, 1842, was	78	55	133
Admitted during the year	48	58	86
Whole number	126	93	219
Discharged, cured	29	26	55
" " improved	9	6	15
" " by request	22	9	31
Died	4	3	7
Eloped	1	0	1
Remaining, Jan. 1st, 1843,	61	49	110
Total	126	93	219

Recent cases admitted, from 1823 to 1842 inclusive, 1394; Of which, discharged cured, 1064; old cases admitted, 1065; cured, 131. Whole number admitted from 1821 to 1842, inclusive, 2684; of which were cured, 1255; died, 217.

The Report of Dr. Wilson contains observations upon the utility of asylums, an exposition of some of their advantages, and a short account of the institution with which he is connected.—The last mentioned is here extracted:

The Bloomingdale Asylum "is the Insane Department of the New York Hospital, the governors of which institution, at an early period of its existence, were induced to appropriate apartments for the insane in the Hospital, as there existed no institution in the State for the reception and cure of that description of patients; but as the building was not designed for that purpose, the accommodations were found to be extremely inconvenient and inadequate, and the applications for insane persons constantly increasing, it was resolved, in 1806, to

erect with legislative aid, a separate building, to be exclusively appropriated to the reception of that unfortunate class of persons. The governors immediately proceeded to lay the foundation of the proposed edifice, denominated the 'Lunatic Asylum,' which was completed at an expense of about fifty-six thousand dollars. It was opened for the reception of patients on the 15th of July, 1808, when nineteen were removed from the Hospital and forty-eight more were admitted, making the whole number sixty-seven. This building was the first edifice erected in the United States expressly for the reception and curative treatment of insane patients. It continued to be used for that purpose until the governors, actuated by the desire of accommodating the still increasing number of applicants, of removing them from the noise and excitement inseparable from their location in the midst of the city, and of introducing a course of moral treatment, more extensive than had hitherto been practiced in this country, purchased in 1815, the beautiful grounds now occupied by the institution, and erected thereon the principal edifice. It was completed in 1820, and opened for the reception of patients in June, 1821, when it received the name of BLOOMINGDALE ASYLUM.

"Previous to the removal of the Asylum from the city, *fifteen hundred and fifty-three* patients were admitted—of whom *seven hundred and four* recovered, and *fifty-two* were removed to Bloomingdale. The present location is about seven miles from the city, near the Bloomingdale road, and from its elevated situation affords one of the most extensive and delightful views to be found in the country.

"The principal edifice is of stone, 211 feet in length and 60 feet in depth, of three stories in height above the basement, and is divided into a centre building and two wings. The wings are arranged, in each story, with a large hall through the whole length, and the dormitories and sitting-rooms are on either side. There are also two additional buildings, each about sixty feet by forty feet, three stories in height, and with internal arrangements similar to those of the main building, for the accommodation of the more noisy and boisterous patients. The cost of all the buildings and improvements, with fifty acres of land, has been about \$180,000.

"The government of the institution is confided to a Standing Committee of the Board of Governors of the New York Hospital. This committee visit the Asylum weekly, and report monthly their proceedings to the Board of Governors. Under their direction the physician, warden, and matron discharge the various duties appropriately devolving on each.

"The means employed in this Asylum for the recovery of those placed under its charge, are much the same as are provided in all similar institutions in our country." The account does not particularize those "means," but from personal observation during an afternoon very agreeably and usefully passed in a visit to this Institution a few months since, we believe them to be as extensive and as judiciously selected and applied as at any other asylum in the United States.

5. Since the Annual Report for 1841, of the Vermont Asylum for the Insane, that Institution has been enlarged by the addition, or "the completion" of a wing; thus furnishing more extensive accommodations and increasing "the facilities for a better classification of the patients." At the commencement of the year the number of patients was - - - - - 95

Admitted during the year, - - - - - 101

Whole number, - - - - - 196

Discharged, - - - - - 77

Died, - - - - - 6

Remaining at end of year, - - - - - 113

Of the discharged there were recovered, - - - - - 49

" " " " " not recovered, - - - - - 28

Whole number admitted since opening of the Asylum, - - - - - 424

Whole number recovered,	- - - - -	179
" " Died,	- - - - -	21
Discharged not recovered,	- - - - -	111

The number of patients admitted was greater than during any previous year. Two cases recovered which were of six or eight years standing. In one of them the principal means employed to effect a restoration was "constant and useful labour." No suicide has ever occurred in this asylum. The Institution is furnished with a library of 400 volumes, for the use of the patients; and a cabinet of minerals has been commenced. It is presumed that the annals of history, whether written or unwritten, can furnish no parallel to this asylum in regard to the publication of a newspaper wholly conducted by lunatics. "The Asylum Journal," commenced by the patients about a year since, is managed with no inconsiderable ability. Dr. Rockwell has furnished this year, as he has in his previous reports, an excellent example of the *multum in parvo*.

6. During the past year, the establishment of the Massachusetts State Lunatic Hospital has been improved by the erection of a new barn and the conversion of the old one "into a building two stories high with a room for an engine, and a shop for carpenter and cabinet work on the lower floor, and with a shoemaker's shop, and a shop for the manufacture of mattresses on the second floor." The trustees, in the Report before us, urge upon the State legislature the necessity of enlarging the hospital, on account of its present incapacity to accommodate nearly all the applicants for admission. "There are only 229 rooms for the accommodation of patients, and there has been no time during the year when they have not all been occupied, and most of the time there have been more patients than rooms."*** There have been during the year, one hundred and fifty-seven applications in behalf of persons who were not admitted at the time when the applications were made, and one hundred and thirteen of them have not been admitted at all.

"The trustees therefore are of the opinion that accommodations for at least one hundred and fifty more patients should be provided.****The most advisable plan seems to be to add two wings, one to the north and one to the south, so joined to the existing building that the present kitchens may serve also for the additions." Agreeably to these suggestions, the legislature, during its recent session, authorized the proposed enlargement.

The number of patients has been greater than in any preceding year. There were in the Hospital on the 1st of				Men.	Women.	Total.
December, 1841,				116	116	232
Admitted during the year,	- - - - -			107	91	198
Whole number,	- - - - -			223	207	430
Discharged,	- - - - -			96	83	179
Died,	- - - - -			3	9	12
Remaining November 30th, 1842,	- - - - -			124	111	238
Of those discharged there were recovered,	- - - - -			44	44	88
" " " " improved,	- - - - -			13	12	25
" " " " incurable,	- - - - -			39	27	66

"During the past season," says the Report, "erysipelas with tendency to suppuration and gangrene, has been somewhat prevalent in this vicinity, and a few cases have occurred among our patients, none of which have proved fatal. Three or four of these cases had extensive suppuration, and were quite severe, but the free application of nitrate of silver arrested the progress of the inflammation. In three cases, in the incipient stage of the disease, the free use of the caustic, so as to destroy the scarf skin, entirely arrested the progress of the inflammation, and the case was ended at once."

"In every department of industry the labour has been more productive than in any former year. The products of the farm have greatly increased, and mechanical employments have engaged a greater number of workmen, with greater comfort than heretofore. More than \$1000 worth of shoes have been made,

yielding a nett profit of \$125 ⁵²/₁₀₀ to the Institution. Many useful articles are made, and all repairs of furniture for the establishment are done in the carpenters' and cabinet shops, and one patient has "prepared all the hair and made and repaired all the mattresses necessary for the season." "Of the fifty tons of hay gathered this season, seventy-five per cent. of it was probably mowed, made and gathered in by the patients. From twenty to thirty workmen were often in the field at one time, all busily employed." "At one of my daily visits to the hay-field," says Dr. Woodward, "I found *four homicides* mowing together, performing their work in the best manner, and all cheerful and happy." Other departments of labour, the usual course of amusements, and the meetings for worship have been continued as usual. Of the 430 patients in the hospital during the year "nearly four hundred have attended the chapel exercises more or less." A valuable Meteorological Journal is appended to the Report.

Ten years having elapsed since the Institution at Worcester went into operation, Dr. W. has taken the present occasion to enter more extensively than heretofore into general data—data which can be satisfactorily attained only by the collection of a large number of cases. Hence this Report is more valuable than any by which it has been preceded. We proceed to select some of the most important information.

During the ten years the whole number		Men.	Women.	Total.
of patients admitted was		806	751	1557
Whole number discharged,	- - -	621	579	1200
“ “ Died,	- - - - -	67	47	114
“ “ Eloped,	- - - - -			4
Discharged, recovered,	- - - - -	328	348	676
Cases, which, when admitted were				
of less duration than one year	699;	More than one year,		856
Of which recovered,	- - - 535;	Of which recovered,		141
“ Died,	- - - 32;	“ Died,		82
“ Remaining in Hospital,	40;	“ Remaining,		198
	Admitted.	Discharged.	Recovered.	Died.
Winter,	- - - - - 324	227	138	24
Spring,	- - - - - 434	325	164	27
Summer,	- - - - - 406	339	174	34
Autumn,	- - - - - 393	313	200	29
	1557	1204	676	114
Cases in which the disease arose	-	Single		823
from physical causes,	- - - 703	Married,		584
“ Moral - - - - -	459	Widowers,		50
“ Unknown, - - - - -	395	Widows,		100
	1557			1557

On page 53 of the Report there is an interesting table, being the first attempt that we have seen, to ascertain by statistical investigation, the relation between occupation or employment, and the causes of insanity. The conclusion derived therefrom is, that "intemperance is the bane of the active, and the 'secret vice' of the sedentary occupations."

Dr. W. thus refers to the new doctrine of "Millerism," as a cause of mental alienation. "Some new views of religious truth have recently disturbed many persons who have deep solicitude for their future well-being, and have brought a number of patients under our care. Some of those views are greatly calculated to alarm those who entertain them, and I fear that, for some months to come, this agitation of the public mind may, in this and other communities, add many to the list of the insane." "Religion, in any view of it, is a solemn subject of contemplation. No individual can feel indifferent to it who has a rational mind, and feels his responsibility to God for the actions of his life. But it is particularly desirable that all consideration of it should be calm and dispassionate, that we should

live it, in our several spheres of duty, rather than seek new dogmas which distract the mind and unfit it for the high responsibilities of this life, or for suitable preparation for the elevated pleasures of a future existence."

Of recoveries, there has been a greater number in patients between 40 and 50 years of age, than of those in any other decennium of life.

Twenty-two patients have recovered who had been insane from 5 to 10 years; 6 who had been insane from 10 to 15 years, and one who had been insane between 15 and 20 years.

The following table exhibits the diseases which have proved fatal, and the number of patients who have died of each of them.

Marasmus,	25	Diarrhœa,	2
Epilepsy,	14	Dysenteric Fever,	2
Consumption,	10	Disease of brain from intemperance,	2
Apoplexy and Palsy,	10	Lung Fever,	2
Suicide,	7	Bronchitis,	2
Disease of Heart,	7	Erysipelas,	2
Cholera Morbus,	4	Old Age,	1
Hemorrhage,	4	Gastric Fever,	1
Inflammation of Brain,	4	Congestive Fever,	1
" of Bowels,	3	Land Scurvy,	1
Mortification of Limbs,	3	Disease of Bladder,	1
Dropsy,	3		—
Chronic Dysentery,	3	Total,	114

In the two cases of death resulting from bronchitis, the disease was of the chronic form and followed wounds of the trachea made in attempts at suicide. Of 167 patients in whom there was a propensity to suicide, but 7 have succeeded in effecting the destruction of life, and neither of these has been within the last eighteen months. "In some families," says the Report, "there is a strong natural propensity to suicide, no love of life, and no firmness to bear the calamities incident to it. *One patient under our care had twenty male relatives, more or less nearly connected with him, who had committed suicide.* Suicide is also contagious or epidemic. In institutions for the insane, there are periods when we have great solicitude on this account, and other periods when we have comparatively little. In the community such cases rarely occur alone. Suicide is often *impulsive*, the means at hand often excite an irresistible desire, or equally repulsive dread; in the one case the means are applied, in the other cautiously put away or avoided. I have often had patients give me knives, scissors, cords, &c., fearing they might be tempted to use them, yet sometimes these same individuals will secret them about their persons or rooms."

In an interesting article on "Recommitments," it is stated that "there have been 308 persons in the hospital who have had more than one attack of insanity; many of these had been periodical for years before they were committed to our care. *One hundred and eighty-nine* that had been discharged have been *recommitted*, and a few of them more than once. Of the recommitted, 68 had recovered and 121 had not recovered. Of the 68 who had recovered, the cases of 49 are arranged in a tabular form, so as to exhibit "the length of time they were confined at each period, the length of time they were well and with their friends, the time each was in confinement during the whole period after he was committed, and the proportion of time they were insane, "after they first entered the hospital. "The remaining 19 cases have not been kept in remembrance, and their history is not fully known." Of the aforesaid 49 cases, it appears that 39 have been in the hospital *twice*, 6 *three times*, and 3 *five times* each respectively, and 1 *eight times*." In neither of these cases was the patient admitted twice in the same year.

In regard to those cases in which the disease appears to occur more than once, the Report states as follows; "The rule which we have adopted has been to consider all recurrences within a year (after apparent cure) *relapses*, and recurrences after longer periods, *new attacks*. We may make a few exceptions to both of these rules." The distinction appears to us to be judicious, and removes the pos-

sibility of the same patient being reported as cured *twice* during the same year, a contingency the probability of the occurrence of which has been advanced as an argument against the accuracy of the statistics of insanity.

The article now under consideration is one of the most valuable portions of the Report, and we regret that our limits prevent the propriety of copious extracts. One only must suffice. It presents a fearful picture, the more so, as coming from one whose experience and observation has been such as to convince us that it is no fairy sketch of the imagination. "Political strife, religious vagaries, over-trading, debt, bankruptcy, sudden reverses, disappointed hopes, and the fearful looking for of judgments which are to dissolve the natural elements of time, all seem to have clustered together in these times, and are generally influential in producing insanity. The hospitals are filling up most fearfully with the victims of these evils, and the predisposed and periodical are, in great numbers, plunged by them into the vortex of disease."

Twenty-four pages of the Report are occupied with an essay on "Impulsive and Homicidal Insanity," including a history of fifteen cases of actual homicide, and of five others in which attacks with deadly weapons were made, but which did not result in fatality to life. The prominence of the subject of insanity in its connection with criminal jurisprudence, induces us to extract the following remarks.

"In general, homicidal insanity is impulsive; in a few cases only, so far as I have known, has there been any considerable premeditation of the act, even in cases of supposed command from powers which the insane individual felt bound to obey. The command and the execution of it are both impulsive, and generally follow one another in such quick succession, that the opposing influences are not aroused to interfere and prevent the deed."

"Seven of the fifteen cases of homicide that have been in the hospital, *were not considered insane before they committed the act*. They were at work at their several employments, were not observed by those associated with them to have any evidence of alienation of mind, knew as well as others right from wrong, how to manage their affairs and conduct their business well. The first overt act of insanity was the homicidal act, and that was impulsive. Yet in all these cases, the symptoms of insanity have been clear and decisive since the patients came to the hospital.

"In this connection it may not be improper to say, that of all the cases that have come to my knowledge, and I have examined the subject with interest for many years, I have known but a single instance, in which an individual arraigned for murder, and found not guilty by reason of insanity, has not afterwards shown unequivocal symptoms of insanity in the jails or hospitals where he has been confined; and I regret to say, that quite a number who have been executed have shown as clear evidences of insanity as any of these. In a large proportion of the cases, the insane man is desirous to keep the evidence of his mental alienation out of sight rather than to present it, while he who feigns insanity generally presents it in caricature.

"I am aware that the plea of insanity is often made in criminal trials, and may be made so often as to excite public prejudice; but till the subject is better understood, it cannot be too frequently or too thoroughly investigated. The old boundaries *have been or will be* broken down, and new principles will govern courts and jurors in deciding upon the lives of their fellow men.

"The abstract principles of right and wrong are as well understood by a large proportion of the inmates of insane hospitals, as in the community at large. Even in sane communities, the question of *right* and *wrong* is every day considered by courts and jurors, and how often are they unable to agree as to what is right, or decide what is wrong! In many cases of controversy the parties are often both honest in their opinion of *right*, though diametrically opposite to each other. Shall more be required of insane than of sane men, in such circumstances?"

We extract two of the cases reported, one of them from the actual homicides, and the other from those in which the attempt proved unsuccessful.

CASE I.—“A—L— was tried for the murder of his wife in 1833. He was acquitted on the ground of insanity, and ordered to be committed to the State Lunatic Hospital, into which he was admitted in February, 1831.

“L— had for years been subject to depression of spirits and turns of great despondency, in which every evil that could befall him was apprehended. He sometimes kept his bed at such times, refused to take his food, was irritable and ill-natured, could not bear contradiction or opposition of any kind. When well he was an industrious man, a miller by trade, a good husband and kind father. A day or two previous to the homicide, he had one of the turns of gloom and depression. In these paroxysms he sometimes contemplated suicide, and at this time particularly. His pistol was loaded ready for the dreadful act at any moment when he should feel sufficiently desperate.

“He came into the house where his wife and one or more children were sitting together; she had put away the powder and emptied the pan, fearing he might injure himself. Very soon after he came in, he took the pistol, examined it, and finding no priming, asked his wife in a peremptory tone for the powder horn. Instead of informing him where it was, she said entreatingly, “If you have no regard for your own life, do think of your poor children.” In a moment he presented the pistol to her breast, and snapped it. It went off and killed her immediately. He then seized a razor, ran to the barn and cut his own throat. The wound was not mortal and he was immediately arrested. At his trial the jury rendered a verdict of not guilty, by reason of insanity.

“My impression has always been, that L— did not intend to kill his wife one moment before the dreadful deed was irrevocably done. He thought of using the pistol for himself, but finding that his wife had taken away the powder to prevent the act he contemplated, he became irritated, and her reply to his inquiry excited an impulse that resulted in the fatal homicide.

L— was a good patient while in the hospital, but, especially in the early part of his residence here, had occasional periods of gloom which would induce him to be dull, ill-natured, and sulky. He would then lie in bed and take no food for some days. At these times he was jealous, irritable and passionate, and sometimes thought his food was poisoned. When he got over these turns he would be very comfortable. He improved favourably, and after three or four years was discharged, recovered. We have from time to time heard that he has continued well since he left the hospital. His temper is irritable and he was always impulsive.”

CASE II.—“The husband of Mrs. H— B— was intemperate and neglected his family. Mrs. B— was an excellent woman and an exemplary christian. She became depressed, but not so much so as to be considered dangerous. She contemplated suicide for some time, but suddenly was impelled to take the lives of her children, to save them from the cruelty and neglect of a drunken father. With a razor she inflicted dreadful wounds on a little boy ten years old, cut the muscles and tendons of the neck so effectually as to destroy all power of raising or holding up his head. The boy escaped from her grasp and hid among the vegetables in the garden, and thus saved his life. On the neck of the little girl, two years old, she inflicted twenty gashes, and would certainly have killed her if she had not been rescued from her hands. A neighbouring woman who had heard the cries of the children, went to their relief; she was seized by the distracted woman and cut badly upon the cheek before she could escape from her grasp. Two young men then came to their assistance, and she was arrested, secured, and soon brought under our care.

“For a long time she appeared uneasy, was easily agitated, and yet said little or nothing. Her countenance was wild and phrenzied, everything startled her, yet she was mute and apparently unconscious where she was, or what she had done. Some weeks after she came to the hospital, having had intelligence from her family, I informed her that I had heard from her friends, and that they were all comfortable. She seemed greatly agitated, and came to me a few minutes afterwards, her eyes swimming with tears, and said most imploringly, “Will you protect me?” I promised her my protection, told her she was entirely safe

and need fear no injury, while she was in my care: she was pacified and sat down calmly and quietly. Her recovery was slow, but she improved favourably, not however without many turns of agitation and alarm, which led me to suppose that the dreadful reality of her wounded and suffering children continually haunted her mind. She now conversed some, worked daily, but said nothing of her children, nor did she make any inquiries concerning them. Fortunately the children got well; and their recovery perhaps saved her from perpetual insanity.

"One day, while she was in her room quietly engaged in her work, a wild and mischievous insane girl, in a moment of excitement, called her a 'murderer.' The effect was electrical, she was agitated and distressed beyond measure; she screamed and wrung her hands in agony, exclaiming, 'Am I a murderer?' It was a long time before she could be appeased; she was answered that she had killed no one, that her family were well, and that there was no reason for the offensive language used to her.

"When told what had really happened, she said that she had a dreamy recollection of something of the kind, that she feared something had been done by her, but hoped that, among other imaginations, this was also one. The recovery of the children was favourable, and our patient improved regularly until she was entirely well. She has since been with her family, in all respects as well as before this attack of insanity."

P. E.

ART. XVII.—*On Gravel, Calculi and Gout: chiefly an application of Professor Liebig's physiology to the prevention and cure of these diseases.* By H. BENGE JONES, M. A., Cantab., Licentiate of the College of Physicians, Fellow of the Chemical Society. London, Taylor and Walton. 1842, pp. 142.

To review a work professing to apply professor Liebig's views in physiology to the causes and treatment of urinary disorders, is a task, at the first glance, almost appalling to any but a professed chemist; and we were not altogether free from a feeling of hesitation in attempting it. To unravel the vast and changing series of newly described and named organic compounds, with all the algebra of their striking and characteristic formulæ, seemed indeed rather a labour for one employed in analytical investigations than of a practitioner in medicine. Yet on the other hand, the very nature of the new doctrine calls upon medical men to make themselves acquainted with that which bids fair to explain so many important points in physiology and pathology, and to add the daring hope of a large accession to our means of successful practice in curing and preventing disease. Either the physician must travel out of the record of his former proceedings, and assume the responsibility of pronouncing opinions in chemistry, the science so long existing exclusively by the labours of his predecessors, and which may be said to have been discovered by them, or he must now expect to find the chemist adopting a parallel course, and becoming his competitor in the practice of medicine and hygiene. It is impossible, indeed, to do justice to the various important diseases which complicate or produce weak health, without the full employment of this philosophy, so characteristic of the age.

With these views, we enter upon the labour with a feeling of necessity and duty; and must view it in a medical and not a chemical point of view. Still, however, for those who are enabled to pursue it with adequate labour, the face of Organic Chemistry appears to us to present a far less disheartening aspect than in former years. The very circumstance of an enormous extension in amount of inquiry and knowledge has had in this science, the same result as in so many others; that of affording more general rules and an ampler and more extensive induction. That which before appeared, at least to us, as a vast field of detached and apparently unconnected detail, growing naturally out of the labours of the apothecary or the manufacturer, and diversified to a degree which has often astonished philosophers, fatiguing to the memory, and incapable

of being used without indexes, now begins to bestow upon the intellect the hitherto vainly hoped for enjoyment of the contemplation of *principles*. Laws of nature, of vast scope, of curious and wonderful applicability; connections between facts apparently the most remote; clear and intelligible correlations between things that formerly seemed only to approach each other by the forced compression of proximity, and in regard to which the wonder only seemed to be how nature could possibly place together things so unlike, and with such a total absence of analogy or connection in the human mind; such are among the increased attractions of the more modern science, and might well repay us, were we to consider this as an evil, for the increased amount requiring to be studied. Here and there, too, an instance occurs in which advancing knowledge has overleaped the great, the grand difficulty, the impossibility of reconstructing any of the products of the vegeto-animal kingdom with materials derived from unorganized nature. And, to crown all, the feature, alarming to the student, of a new algebra applied to chemistry, has like other algebra, the character of a beautiful art, simple, clear, intelligible to those who study its symbols, and only intricate in the wonderful extent of what it teaches, the unexpected and important discoveries to which it has given rise, and the prodigious power and facility which it adds to the art of thinking. The finest and most important results of the modern notation have been those which became at once and of necessity visible the moment a question was fairly expressed in characters. For these improvements the world is indebted to many labourers; among the most brilliant of whom, and most likely to be often remembered by posterity, is undoubtedly the professor of Giessen. We thankfully join in the applause of an admiring world; but we should never forget, amid the enthusiasm of popular approbation, our duties to those who have served mankind, though not now the subject of the shout; and our best gratitude and praise belong to the names of a Chevreul, who first gave Organic Chemistry its impulse in the direction of its present splendour, of a Wöhler, who first artificially composed an organic compound, and of a Berzelius, whom vast powers of intellectual combination and original suggestion could not tempt, by their so often "fatal facility," to hold himself excused from the most indefatigable labour in the details. The present is also the fitting moment to welcome the rising fame of a Mulder, whose genius and industry bid fair to revive, in chemistry, the ancient glories of Holland. From the land of Boerhaave, the Delta of our modern Egypt, there has arisen a name justly foreshowing the most invaluable improvements and brilliant discoveries, and in a field emphatically useful to the whole human race. And in the present inquiry we have to thank it for the important observation which forms the basis of Professor Liebig's comprehensive and farsighted views—and which could only have been made by a rare combination of minute and accomplished skill with clear powers of abstraction—the chemical identity, in nutrition, of albumen, fibrine and caseine; alike throughout the animal and vegetable world.

Mr. Jones is, as we have above represented him, a graduate in the arts; and was a pupil of Professor Liebig. His name is to be seen attached to some of the analyses published by his preceptor. The present publication owes its origin to a suggestion made in the Quarterly Review; and Mr. J. has placed the passage in his title-page. The first and larger portion of the work treats, in 88 pages, on the Uric Acid Diathesis, on Gout, and on the Oxalic Acid and Phosphatic Diatheses. In the second part, which treats of Calculus, he has very closely adhered to the manual of Professor Berzelius; giving manfully the opinions of another where he thought them better adapted to the purpose than his own. It is the earlier part which develops the views of his now celebrated teacher. In this, if our impressions be correct, Mr. Jones need be under no anxiety as to his success; the inquiries and genius of the distinguished professor of Giessen bidding fair to assume a position, in this all important branch of Science, almost equal to that of the works of Lavoisier in the chemistry then known to mankind. We have been told by a celebrated poet that he awoke one morning and found himself famous. It is not reasonably to be doubted that the sudden and brilliant celebrity of Dr. Liebig with us was preceded by a long

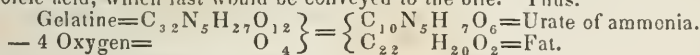
career of labour and reputation in his own country; but as respects America and, we fancy, England, his name may be said to have exploded from obscurity to unexampled, and to all appearance enduring fame, by the simple publication of his two memoirs on Animal and Vegetable Chemistry as applied to Physiology. The moment before, he was lost amid the numerous list of learned and intellectual German professors; the next, he had won if not the highest at least the most widely diffused and brilliant reputation of the age; and it was apparent that he was, at once and for ever, established as one of the great and commanding reputations of chemical history. Albumen, fibrine and caseine are, then, in their composition and as regards nutrition, the same; and that is to be understood as including the substances known by the same name in the vegetable world. The definitions given by Dr. Liebig for fibrine and gluten do not coincide with those which have been commonly given by the English chemists; and the usage of Dr. L. seems to be prevailing. These substances all consist of proteine, with variously superadded amounts of sulphur and phosphorus; the total of these two last, together with the oxygen, being always the same. Proteine, which is not named from Proteus, indicating change, but from *πρωτευν*, "I take the first rank," is composed of carbon 48 atoms, nitrogen 6, hydrogen 36, and oxygen, 14. In forming albumen and fibrine, there are added phosphorus and sulphur, and in forming caseine, sulphur; while the differences in the action of these bodies may be further explained by the differences in the order of arrangement of their atoms. The gelatinous portions of our composition, as cartilages, tendons, arteries, &c., contain these four leading substances with little important difference. These bodies constitute the great mass of the materials which make up our organs; and the other compounds are incidental, and comparatively sparing in amount. They are also so far detached in their chemical history as to be capable of being studied separately from the above; thus removing a great mass of complicated inquiry from the great central accumulation of the science. The bodies composed of proteine obviously furnish the principal portion of the nourishment; and we here have an exemplification of the law of nature by which the food of animals, the chief and almost entire substance of their bodies, is separated from the earth by plants; while to the more complicated organization is left the elaboration of this into the products purely animal. Plants prepare the nutriment; animals consume the structures in which it is contained. Plants require the materials of decaying organization for their growth; animals elaborate the nutriment they receive into forms calculated, principally from their complexity, for accelerated decay. In regard to *variety* of compounds, and difference of external appearance, the excess is, we believe, on the side of Plants.

We have said that animal compounds are, in proportion to their greater complexity, prone to dissolution. This takes place from heat, moisture and oxygen; of which the oxygen of the air, so necessary to our existence, is the chief; as also from the catalytic action of many of those substances, unfriendly to life, which we denominate poisons. Against this incessant action, the vital power offers a perpetual resistance; yet, in its regular expenditure by the operations of the organs, particularly the muscles, tolerates the process; and it is thus that the incessant wear and tear of the body converts carbon into the carbonic acid of the lungs, and the remainder of our tissues generally into uric acid. The vital power is debilitated by muscular action and by cold; and the activity of oxygen is augmented by an increase in the amount of the gas presented to the lungs. In the two last named cases, this amount is increased by the acceleration of respiration, and by the greater density of a cold air, and its greater freedom from dilution with watery vapour. Hence these agents augment the production of uric acid; but the presence of an excess of oxygen converts this substance into urea, with other soluble matters; which are then regularly expelled by the urine. This takes place in an active respiration of pure air and the carnivorous animals afford a convenient illustration; the hot-blooded tribes, as the feline animals, habitually undergoing this process, while, in those with cold blood, as the boa constrictor, the uric acid escapes from the cloaca in the form of urate of ammonia. The use of iron promotes the absorption of oxygen, by sensibly augmenting the amount of the globules of the blood; which are vehicles, transporting oxygen from the lungs

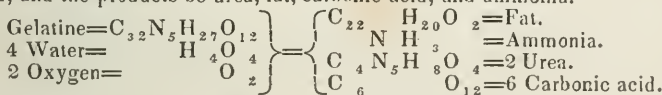
to the capillary reticulations; and that of non-nitrogenous food (fat, starch, &c.), tends to retard the changes produced by oxygen, by furnishing, to employ its activity, a larger amount of carbon, and in a state possessing for it a greater chemical affinity; while, at the same time, they cannot be made to yield nourishment for albumen, to supply the waste of that substance in the organs. In pulmonary consumption, the wasting of the body is achieved by excessive oxygenation; our authors here lending the sanction of modern chemistry to the practical views of Dr. Beddoes.

In the gelatinous tissues, as in gouty joints, according to Professor Liebig, the changes must take place at their surface only. Mr. Jones remarks that it is in tissues of slow sanguineous circulation that we should more frequently expect the uric acid to be left without further oxygenation; and hence the production of gouty concretions.

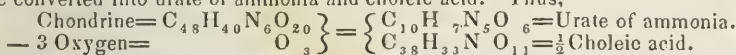
Dr. Jones then proceeds to show, by formulas, that in case of a want of oxygenation from the lungs, the gelatinous tissues may develop urate of ammonia by their simple decomposition; liberating oxygen, and, at the same time, fat, and choleic acid, which last would be conveyed to the bile. Thus:



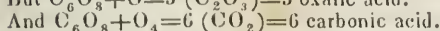
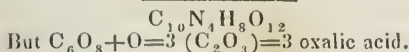
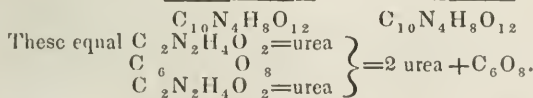
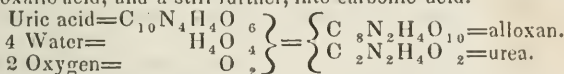
Or, in health, by another process, a little oxygen and some water can be absorbed, and the products be urea, fat, carbonic acid, and ammonia.



Chondrine can furnish oxygen to a diminished oxygenation, and the residue be converted into urate of ammonia and choleic acid. Thus,

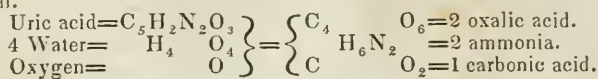


Uric acid, being an extremely complex substance, readily undergoes changes under the action of oxygen, heat and water, which render it soluble, and more fitted for expulsion in the urine. These can be imitated in the laboratory; and there is no doubt that, under a proper and free habit of oxygenation in the body, they take place within it. Thus we shall exemplify, in the following formulæ, that a small addition of oxygen may convert uric acid into urea and alloxan; a little more will change the alloxan into a fresh portion of urea, with an excess of carbon and oxygen; a further oxygenation will convert the materials of this excess into oxalic acid, and a still further, into carbonic acid.



In confirmation of this, the guano, the celebrated manure of the sea islands of Chili, referable to the excrement of birds, and of consequence, containing their urine, as is the case in that class of animals, was found to undergo an analogous

change. Its urate of ammonia, by length of time, exposure to moisture, and the action of its own impurities, was converted into oxalate; the article being found in progressive stages. The theorem is as follows; being considered hypothetical.



It is thus inferred that the presence of uric acid in the urine, instead of urea and the other compounds enumerated, is evidence of an imperfect action of oxygen upon the animal system. The quantity of uric acid excreted by the kidneys will therefore depend partly upon the quantity produced within the body, and partly upon the proportion of it, which is changed to the above forms before its expulsion. It is evident that oxygen must be the principal agent in effecting these changes; and the heat and moisture, as well as the alkalies, secondary. The attempt to prevent uric acid from being formed having been thus abandoned, as a vain attack upon a physiological and necessary process; the task next remains to facilitate its solution and discharge.

The freer action of oxygen is to be promoted, first, by giving a large supply of this gas. This is to be effected, first, by exercise. Every action of the muscular apparatus, so lively as to give rise to a quicker respiration, is necessarily followed by the presentation of an increased amount of oxygen to the blood in the lungs; and this is a primary medicinal means. The effect is also promoted by a colder air, in which, from its greater density, a larger portion of the atmospheric fluid is made to enter into a given bulk inhaled by the subject. Finally, medicines may act for this purpose. One, and the most direct, of these is the use of water holding nitrous oxide gas in solution, as a drink; which Mr. J. believes to be a very useful practice. Another class of remedies is the ferruginous family of preparations. With our old chemical ideas, we would not immediately see how these are to act. The recommendation of these is an inference from the theory of the professor's, in which he views the red globules of the blood as a means of transferring the oxygen required for the purposes of life from the lungs to those points in the capillary system where they were to exchange it for carbonic acid gas. Thus, the bright, arterial blood is furnished with globules containing the sesquioxide of iron; while, in the capillary system or intercapillary texture, this is converted into carbonate of the protoxide; a black substance which harmonizes with the colour of the venous blood. We may misunderstand Professor Liebig; but we believe he associates the respective colours of venous and arterial blood with those of the compounds of iron of which we have spoken. Several allusions would give this impression, but we do not feel any of them an exact committal. Of the visible effect of ferruginous medicines in augmenting the red portion of the blood, Dr. L., in common with every practitioner of experience, justly entertains no doubt. Whether the ideas above expressed in regard to the mode in which the red matter acts, be contested by physiologists, or not, these will undoubtedly assent to the fact of a close association between the quantity and rapid circulation of this substance and the amount of oxygen consumed in respiration. Hence, no theory compatible with modern views on this point can weaken the presumption in favour of the utility of chalybeate remedies to promote oxygenation of the materials of the body.

The effect of diet on the gouty and uric acid diatheses has always fixed the attention of physicians. The inferences which flow from the views of organic chemistry on this point, are very important; and are calculated to produce, if conceded to be correct, a very considerable change in our ideas respecting the treatment of these states of the system. They appear to me to explain much of the difficulty in which this important subject has been involved; the results of experience differing, as is well known, from most of the explanations founded upon our knowledge as it existed at the time. When uric acid has been observed in the urine, or about the joints of gouty persons, it has been the general

custom to limit the consumption of animal food, with the view of preventing plethora; which was taken to be the predisposing cause of gout, and which, if we allow the proposition a fair construction, and give to its defence the benefit of the same new lights of science which we should be so ready to employ for its destruction, is really so. Certainly, the accumulation of matter which has finished its duties in the animal economy, and is difficult of discharge from the want of sufficient oxygenation, is a plethora, and one of the worst kind. On the other hand, daily and hourly experience dictated and enforced the necessity of abstaining from acids; the sufferings of the patients frequently inducing them to take the subject into their own hands; and, by the chemists of the time, the prevalence of uric acid concretions, in gout, and of a gravel consisting mostly of the same materials, tended to confirm what was thus prompted by experience. A new indication arose; to deny animal food with the view of withholding the materials which went to constitute this animal acid; and at the same time, many considered the inducements for doing so strengthened by the generally beneficial effect of abstinence upon all inflammatory affections; particularly those so acute as active gout. The result showed that the restriction afforded no benefit commensurate with the suffering inflicted; and from this cause, and from the occurrence of symptoms of nervous excitement or debility, it became necessary, in instances of continual recurrence, to infringe the restriction. The local actions of gout were considered as inflammation; and it was deemed an explanation to compare them with other inflammations; while no reason was perceived, among any of these analogies, for the bad effects of acids, above alluded to, or for that so frequently encountered in the use of a reduced diet. Wines were prohibited, as being contraindicated by inflammation; while it was forcibly seen and felt that their injurious agency bore no proportion to the degree of stimulation they produced; and it was found, on trial, to our surprise, that brandy was more useful and less injurious than wine, and the ill quality of wine seemed regulated by the degree of acidity and not that of stimulation. We seem thus to have been engaged in a perpetual struggle between the inferences drawn from the imperfect lights of the age, and the teachings of experience.

Certainly, if organic chemists can show us how to reconcile difficulties like these, on subjects so important to human life and enjoyment, they are truly benefactors to mankind, and to that fraction of its interests comprised in medical science. In examining Dr. Liebig's definitions, we are struck with the difference in his manner of applying it to medicine from what we have been sometimes accustomed to witness. After becoming endowed with a mass of brilliant ideas, he does not, as has been in some instances the case, it may be in the latitude and longitude in which these comments are penned, insist on new modelling all medicine upon the strength of the new views, and begin by endeavouring to destroy the credit of all that has gone before. Instead of decrying the results of past experience, he has used them as evidence of truth, and has tested his chemical doctrines by their correspondence. Unless his inferences agreed with the observations of the best physicians, they were wrong; and must share the fate of all other conclusions in science founded upon an insufficient comparison of facts.

Vegetable and animal matters which contain a large portion of carbon, and no nitrogen, (fat, starch, sugar, wine, beer, alcohol, also gum, bassorin and pectin,) have a much greater affinity for oxygen than the nitrogenous compounds; and unite with it in preference to them. Now, if the chemistry of the present age be correct, it is not from the food that the uric acid is produced at all; it is the product of the wear and tear of the tissues and fluids, and is composed of the matters no longer fitted for the service of vitality. In the view of Professor Liebig, it is a regular step, intermediate between the natural living condition of proteic substances and the urea of the kidneys. Whether fresh nitrogen be furnished or not, the elimination of uric acid, altered or otherwise, will still go on at the expense of the body, until death be either threatened or perhaps actually produced, as in the case of some experiments. The albuminous matter must be supplied, either from the animal or vegetable kingdom. Our practice, while forbidding

meats and soups, has been, in comfortable ignorance of this yet unexplored mystery of nature, to add a very proper quantity of nitrogenous matter in the bread and other articles, to which no one has thought of objecting; thus violating our own rule for the benefit of the patient. On the other hand, in administering the non-nitrogenous and carbonaceous matters enumerated above, whether vegetable or animal, we furnish a mass of substances which, by their nature, and in an increased degree by the chemical effect of quantity, take the preference of the uric acid in oxygenation, furnish the animal heat in the lungs and the carbonic acid for elimination, and leave a restricted amount of oxygen for the proper "preparation" of the "morbid matter" to be discharged. How curiously the inquiries of modern science sometimes lead us back to those well-known results of experience, observation and sagacity among our predecessors, which we have sometimes been told to laugh at! To check the unnecessary expenditure of oxygen upon matter which can only be used for the repair of the cellular, tendinous, bony, and other gelatinous tissues, we are not to forbid nitrogenous food, either vegetable or animal, but to furnish enough for the proper support of strength; but we are to limit the use of non-nitrogenous and carbonaceous articles, and that as severely as is compatible with the patient's comfort.

Next after these indications comes a confirmation, we will not say from the last new theory, but from the most refined and perfect scientific investigation, of another result of the old, rational-empiric method of philosophizing; another product of the experience of ages; we mean purging. At no time, perhaps, since the popularity of the doctrine of excitement, which we date from Cullen, have the minds of physicians been free, on this point, from perpetual vacillation between the influence of experience and daily observation. When the beneficial effect of purging was to be explained only as revulsive, its reputation was subject to continual assaults growing out of theoretical views. One set assailed it as debilitating, and greatly limited its use. Another pleaded that it produced a dangerous counter-irritation in organs essential to life; and that the treatment of diseases of irritation by such means was a mere game of "double or quits." We have even heard it gravely objected to by men of venerable years, because it was disgusting and vulgar! In vain did men, as long ago as Glisson, point out the nature of the portal circulation; and urge the improbability that so many "effete matters," "impurities," and, it may be, "putrid matters," were absorbed back into the system without having a share in the production of the various disorders which followed intemperate eating and costiveness. The erroneous theory went on injuriously, while practitioner after practitioner was compelled, by the useful results of this ancient practice, to return to its use; and not unfrequently founded a reputation upon its consequences. This was, among others, pre-eminently the case with the late Mr. Abernethy.

The bile, according to Professor Liebig, is produced in amounts altogether disproportionate to those discharged from the bowels in combination with the fæces. This excess, in the course of healthy nature, is reabsorbed, and contributes to furnish a large amount of carbon for respiration. By removing this in large quantity, we leave the oxygen to complete the preparation of uric acid. Dr. Liebig considers urine and bile as each other's complement; both, when added together, deducting oxygen and water, added in the formation of the organs from the blood, amounting to the materials of the blood. Bile is chiefly composed, according to Demarçay, of an acid called *choleic* united with soda. The formula of choleic acid is only empiric, or formed from ultimate analysis; positive proof not having been yet obtained of the immediate compounds which unite to form this substance. It is $C_{76}N_2H_{66}O_{22}$. Inspection will at once exhibit the large proportion of carbon and hydrogen contained in this oily substance.

Perspiration, which evacuates either acetates, lactates, or both, rids the body of much carbon; and the exposure of the skin to the air gives rise to a further degree of oxygenation; Dr. Liebig, in this, agreeing with the experiments of various physiologists, and with the general inference from comparative anatomy. Having thus completed our survey of the means for extending the effect of oxygen upon the tissues and fluids, the indication next in importance is to keep

the uric acid, if its changes cannot be completed, in a state admitting of solution in the blood and urine, to facilitate its removal; and this is to be done by water and alkalies. Here we find inferences drawn from the acknowledged successes of the practice of Priessnitz, and of mineral waters, including travelling; certainly the most fashionable methods of treatment in this age. The effect of the mineral waters, among the principal localities of which our author gives some discriminating criticisms, is to be ascribed to the combined agency of watery dilution, of the alkalies contained in them, of purgation, of air, and of exercise; all which, as we have seen, act together, in several ways, for the same end; producing a combined influence which he considers very efficacious. In the water cure of Priessnitz, are combined the dilution, the life in the open air, the exercise and the exposure of the skin to oxygenation. The external application of moisture, practised by him, is viewed by Mr. Jones as facilitating the escape of carbonic acid from the body, by means of the solubility of that gas in water. The use of alkalies need not be simple; the stomach, when fatigued with them, may enjoy the variety afforded to its nervous sensibility by those compounds which become alkaline in passing through the body, though not originally so. Among these are cream of tartar, notwithstanding its acidulation, together with the alkaline citrates and oxalates; the acids of all these being converted into the carbonic by oxygenation, before they make their appearance in the urinary cavities, and the last named acid not depriving them of their alkaline energy. It must be granted, however, as an objection, that these must consume a little oxygen. Hot rooms should be avoided. Warm climates are probably as favourable as cold ones; from the diminution of appetite and the increase of perspiration. The sesquioxide is, in Dr. Liebig's opinion, the best preparation of iron; but not in very large doses. The present reviewer does not wish frequently to give his own experience, which on this point is rather large; but he thinks the difficult solubility of this substance has made it far inferior to the protocarbonate, in his trials; or even to the old impure mixture which contains the latter. Bread should be used sparingly, and potatoes and rice avoided, on account of the large proportion of starch they contain. Beans and peas are better, from containing albuminous matter. Fruits, particularly apples and pears, are objectionable, on account of the starch and sugar they contain. Fat is altogether improper, as non-nitrogenous. Butter, for the same reason, should be employed sparingly; but, the patient abstaining from fat, a little butter may be permitted. Jellies and gelatinous syrups should be only partially used; as they are insufficient for nourishing the albuminous tissues and fluids, though quite competent to supply the gelatinous parts of our bodies.

When water containing nitrous oxide in solution, and known in London by the name of oxygenated water, is not to be had, distilled water is the most proper. After this, the next best course is to select the fluid from a healthy spring, and have it boiled for several minutes with a few grains of potash or soda, to precipitate the native salts of lime. The alkalies added become sulphates or chlorides, and in this state, may be taken without inconvenience. The best purges are calomel, aloes, colchicum and colocynth; and blue pill is often useful as an alternative. Courses of mercury should be avoided, unless in cases of necessity. Sudorifics are occasionally very useful; and, in general, the cold bath is a valuable remedy. By its cooling action on the skin, the cold bath acts to depress the vital energy of that membrane, accelerates the decomposition of its albumen and other components at the time; and, when this process is finished, leaves the central parts of the system to the undivided benefit of all the oxygen inspired. With all respect to the distinguished professor from whom it is understood to emanate, we believe in the tonic power and utility of the cold bath; but this theory of its action appears to us strained, and too complicated. From our experience of physiology and pathology we should not think the vital activity of the body capable of being safely reasoned on in this manner; which seems to us better suited to the addition and subtraction of the beautiful chemical formulæ we have above cited. The application of alkaline baths, even to the feet, renders the urine alkaline. This is on the authority of Mr. Rehberger, cited by Pro-

fessor Liebig. Mr. Jones then proceeds to urge that the use of common salt greatly increases the action of oxygen on the tissues, and finishes the chapter by a neat contrast of the gouty diathesis with scorbutus; which he conceives to be an opposite state of the system. In scorbutus, from the long continued action of fatiguing muscular exertion, of fresh air, and of salt, and from the privation of carbonaceous food, the action of oxygen upon the albuminous tissues and fluids has been carried to a long continued excess. The result is a destructive waste of the tissues and blood, accompanied by excessive brightness of the colour of the sanguineous fluid, and quite sufficient to account for all the other symptoms of that formidable affection.

Having been thus far rather full in our analysis, and been obliged frequently to include gout in our remarks, we can be brief in examining the chapter on that especial subject. Mr. Jones considers it as uniformly the consequence of a long continuance of the uric acid diathesis. He quotes many authorities in illustrating this point; and incidentally informs us, from Dr. Liebig, that death has sometimes followed the practices of Priessnitz, at Graffenburg. The treatment we have given requires little modification other than what is obvious to the practitioner. In inflammation, according to Dr. Liebig, there is a more rapid consumption of the textures; while, in the gouty subject, the oxygenation being imperfect, the uric acid produced is discharged with difficulty; and the relief afforded when the escape of this substance is at last effected, is strikingly obvious to every practitioner.

The questions why uric acid is not found in the blood, and whether it be formed in the organs, and undergo its change into urea there, or whether it be first produced in a different form and conveyed to the kidneys, there to assume its acid character, are stated and acknowledged not to be yet answered. The author predicts that chemistry will in time solve them. He cites the observation of urea in the blood in Bright's disease, as an argument in favour of uric acid being probably passed through the blood in its proper character after being formed in the tissues. Part of this we should think was already answered, by the fact alluded to by Professor Liebig, and so familiar in its effects to the unfortunate sufferers from gout, of the deposition of this substance on the surface of the ligaments of the joints in the form of gouty concretions.

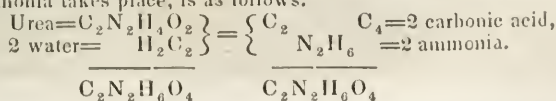
The nature and treatment of the *oxalic acid diathesis*, may be inferred from what we have thus far described; reference being had to the formulas which exhibit the generation of the substance from which it is named by the oxygenation of uric acid. In the oxalic, oxygenation has been carried further than in the uric tendency; but it is still incomplete. The number of cases suffering by it is really very small; though the production of this substance contributes to the formation of a great proportion of the urinary calculi. There is no use in attempting to prevent the organism from receiving supplies of lime; the thing is impossible; but our most earnest attention should be directed to preventing the formation of the oxalic acid; and the remedies required, acting by oxygenation, are nearly the same with those we have above indicated.

The *phosphatic diathesis* may be either false or true. In the true, in consequence of a general state of the system, the urine becomes alkaline, and the phosphates are deposited as an effect of this. In the false, local circumstances in the urinary organs produce the same effect by converting the urea into carbonate of ammonia, incurring the absorption of a little water. In both, a white deposit occurs, easily soluble in any dilute acid, but insoluble by heat or alkalis. It is not uncommon to see a layer of crystals on the surface of the water, presenting a prismatic appearance, and composed of the phosphatic salts.

Phosphorus, phosphoric acid, lime and magnesia are carried into the circulation by both food and drinks. Between vegetable and animal albumen no difference can be observed in the presence and relative amounts of sulphur, phosphorus and phosphate of lime. The organic acids existing in vegetables are combined with much lime and magnesia; and are accompanied by phosphates, carbonates, sulphates and chlorides of the same bases. Most seeds contain phosphates, and the cerealia, in particular, phosphate of magnesia. The con-

cretions of chaff of oats found in the alimentary canal of horses are cemented together with these substances. An enormous specimen of this class, formerly in the museum of the Pennsylvania Hospital, was presented to the writer of these notes, when that establishment was dissolved, by the committee in charge of it; and has been left as a loan in the hands of Professor Gibson. Of several articles examined by Dr. Liebig with this reference, the largest proportion of the phosphates was found in potatoes; next came black bread; the grain of wheat was found to furnish considerably less; milk much less; and fresh beef very little. We do not quite understand our author at pages 78 and 79 on this subject. Perhaps he means that the graminivora discharge these matters in their urine only at intervals. They must employ a great portion of them in their bones, &c.; nor does it seem very physiological to imagine that this particular tribe of animals is distinguished by a power of using over again matters which have once served their turn for the functions of life, and never been expelled. Still less does it seem probable that the brain should be selected for such a nutrition. Again, whether the phosphates be used for many or few textures of the body, they must, according to all physiology, find a discharge at last; and Mr. Jones must discover an outlet for them; as the brain could not go on indefinitely accumulating phosphates. This is, however, a trifling "macula" in a brilliant and useful work. In animals of a rapid oxygenation, the production of the phosphates from oxygenation of albumen is proportionally great; thus $\frac{1}{1000}$ ths of the urine of the lion consists of them; and phenomena somewhat analogous are produced by high aeration in the human subject. A man was brought to St. George's Hospital with a severe injury received while engaged in active labour. His urine contained a considerable amount of phosphates. Under bleeding, rest, and a fever diet, it had next day nearly disappeared. These facts are ascribed to the action of a high oxygenation upon the phosphorus of the albumen. Salts of lime are probably conveyed to the kidneys as carbonates; and meet with phosphoric acid in these and the appended organs. In the absence of this acid, the carbonate of lime is sometimes excreted. Much reason exists for thinking that all mucous membranes have a tendency to secrete the phosphates, or the carbonate of lime. We have mentioned concretions, cemented by phosphates of lime and magnesia, from the alimentary canal of horses. The tartar deposited in the teeth contains 75 per cent. of phosphate of lime. A calculus from the sublingual gland was almost entirely composed of it. The calcareous concretions of tubercles consist of phosphate and carbonate of lime; substances which, as pointed out by the anatomist, abound in the puruloid matter of these bodies. Concretions of the prostate gland consist almost entirely of the salts alluded to. The mucus of the urinary organs is a great source of phosphate of lime: as the mucus of all mucous membranes is found to contain salts of lime, and generally phosphates. If the urine be alkaline, these are precipitated; if acid, they are held in solution.

A curious instance of the catalytic power of presence is exhibited here; and is necessary for the comprehension of the medical part of the case. The phosphates already formed in the vesical mucus act as a ferment upon the urea, causing it to change into carbonate of ammonia, thus rendering the urine alkaline; upon which, not only the phosphates of the mucus, but those previously dissolved in the urine, are rendered insoluble, and form deposits. In the healthy state, this change takes place after some hours exposure to the air; but when the membrane has been inflamed, and the secretions consequently increased on its surface, the process is more rapid, and is liable to be completed before the expulsion of the fluid. In cases of retention of the urine, both the length of time and the inflammatory irritation tend to produce this effect. It is not uncommon to find that the portion of the urine most in contact and commixtion with the mucus undergoes the change first. The formula in which the change into carbonate of ammonia takes place, is as follows.



Mr. Jones speaks in strong terms of the expectations to be entertained from the approaching publications of M. Dumas on the changes which the mucus undergoes in these cases.

In instances of great weakness, and where the spinal cord has been injured, the urine is found to be alkaline. In great weakness, the sulphuric and phosphoric acids are discharged in very small quantities; and carbonate of lime appears. In this case, the proper decomposition of the albumen is retarded. In instances in which the spinal cord has been injured, so as to produce paralysis, retention of the urine is the source of some production of ammonia; but the effect produced is more frequent than this will account for. Mr. Jones is of opinion, we presume after Professor Liebig, that ammonia is generated in the natural decompositions within the body; an occurrence difficult of investigation. Besides the ammonia contained in the triple phosphate, lactate and muriate of this alkali are believed by Professor Berzelius to exist in the urine. It is finally observed that action of the brain accelerates decomposition in its substance, and must necessarily disengage phosphoric acid.

The treatment of the phosphatic diathesis consists almost altogether in making and keeping the urine acidulous. The vegetable acids must be given, without partially combining them with alkali; as is done in cream of tartar; and this must be recollected. In such a case, as we formerly observed, they are completely converted into carbonates, and evacuated in a condition in which they exhibit the alkaline agency of those compounds. When given uncombined, on the other hand, they pass into the urine, not only without neutralization, but, what is very singular, without being further oxygenated; and although with less of the acidifying principle, exhibit, as is well known, more of the acid reaction. It is possible to lessen the amount of phosphates received into the system by abstinence from those substances which contain a large proportion of them. Such are brown bread and potatoes; and the patient should employ peas, beans and rice instead of them. As inflammations of the urinary organs and obstructions to the passage of the urine are among the most powerful causes of the local or false phosphatic diathesis, this consideration forms a strong additional inducement for persevering efforts to cure, and failing or during these, to palliate such affections.

Upon our author's chapter on the stone we shall not pause. Thirty pages constitute the extracts from Berzelius; and are given, almost verbatim, in the neat translation of our townsmen, Mr. Boyé and Dr. Leaming. The remaining thirteen relate to attempts to remove the stone. We do not observe any application of Dr. Liebig's views in either of these parts. The prospect of success by dissolving the calculus is discouraging as ever. Three favourable cases are, however, enumerated. Borax is most used, in Germany, as a solvent to act through the general fluids; and the benzoic acid, suggested by Dr. Ure, is not viewed favourably by Messrs. Garrod and Keller. Alkaline drinks are unquestionably palliative; but these act by causing a phosphatic deposit, so as to coat the stone with a less irritating substance; and this is perhaps right, as is suggested by Sir Astley Cooper. The presence of a nucleus stimulates the deposition, even if the solution be not quite saturated. Among injections for the purpose of dissolving the stone, acids largely diluted seem more promising than alkalis; but their agency seems to take place almost exclusively on the animal cement, and but very little on the crystalline matter. B. H. C.

ART. XVIII.—*The Kidneys and Urine*. By J. J. BERZELIUS. Translated from the German by M. H. BOYÉ and F. LEAMING, M. D. Philadelphia. Lea & Blanchard, 1843, pp. 179.

LITTLE seems necessary to be said in the way of expression of opinion on the merits of any work of Professor Berzelius. It comes from one of the *Di majorum gentium*; and the established reputation is sufficient. Mr. Berzelius never

touches any thing but with the hand of a master. The publication of this translation is rendering a substantial service to American medicine; as we had nothing of easy access on the subject, according to the belief of the present writer, since the edition of Prout's earlier work by the late Professor Samuel Colhoun; and it is much more than time to give us some account of the movements, in this respect, of the severer forms of recent modern chemistry. The treatise of Bence Jones is rather theoretical and argumentative; the present extract from Berzelius is strictly descriptive and didactic, and communicates, among other things, the practical instructions in examination of the urine of which we most feel the need. The physiological theory of this secretion intimated by the editors of the present volume is the same generally received by the chemists of the time, and among others, by Mr. Jones; we, therefore, need not repeat it. It is dismissed by Professor Berzelius in a single sentence (p. 27); a fine specimen of a great man who confines himself strictly to his proper, peculiar business. A concise and neat description of the organs is first given; in the course of which he makes the following anatomical observations. On being pounded in a mortar, the substance of the kidney of a horse was almost entirely reduced to a fluid, inclusive of fine particles that passed through a linen strainer. The solid matters left behind could not be distinguished chemically from the coats of an artery; thus proving by the present method, in addition to the well known mechanical and microscopic means, that the organ was almost altogether constituted of vessels. Around these, however, existed a fatty and albuminous matter, capable of being separated by the above process, and faintly imbued with lactic acid. No fibrine was found in the kidneys; nor was urea encountered; at which last Professor Berzelius expresses his surprise. He had prepared the kidney by first injecting the artery as far as possible with distilled water introduced with a hydraulic pressure; and by many washings of the slices into which he subsequently divided it, with ice-cold water; but he had not succeeded in introducing the water of his injections into the cellular substance.

Our author shows us by his example, that a man of high scientific distinction, who will never be accused of not informing himself of "the latest improvements," by no means thinks it beneath his dignity, or a waste of his time, to give a careful historical retrospect of the inquiry he has himself so effectually advanced. Van Helmont examined the urine with care in his essay on calculous affections. Twenty-five years later, Brandt and Kunkel made the brilliant discovery of phosphorus by obtaining it from the urine. Boyle, Bellini, Boerhaave and Marggraf made more or less elaborate inquiries into its composition; and a minor degree of importance is conceded to Pott, Haupt, Schlosser, Schockwitz, Beyman, Klapproth, and others unnamed. Rouelle, junior, next studied the organic elements of this fluid, but did not succeed in separating them:—he called them, as a totality, the soapy extract of the urine. He examined the saline matters, and compared the human urine with that of herbivorous animals, in which last he notes the absence of the phosphates, but found the carbonate of lime. To Scheele is attributed the discovery of uric, or lithic acid, which latter name our translators have retained; and Scheele also found that the urine contained phosphate of lime dissolved in excess of acid. Cruikshank, in the investigation of diabetic urine, made so many advances, that, in the opinion of Professor Berzelius, our knowledge of the nature of urine ought to be dated from his work. His experiments were published in Rollo's treatise on diabetes mellitus. Mr. Cruikshank was the discoverer of urea, succeeded in obtaining it in a crystalline form, and noted its precipitation by nitric acid. He further pointed out a good method of ascertaining the relative quantity of ingredients in the urine; besides investigating various modifications of this fluid, as those occurring in fever, dropsy and dyspepsia. The detailed analysis of the urine, by Fourcroy and Vauquelin, dates three years later; and Mr. Berzelius throws out a broad insinuation to the discredit of the allegation of Fourcroy, that he and his associate had been acquainted with the principal facts noted by Cruikshank at an earlier period than the latter. To Fourcroy and Vauquelin is due the first good investigation of the effects of putrefaction on the urine; and Thénard demon-

strated the existence of another acid in that fluid, besides the lithic and phosphoric. This, according to him, was the acetic, but, in the conviction of Professor Berzelius, the lactic. The latter, finally, himself, made evident the presence of an extractive matter having a great resemblance to that derived from the liquids contained in flesh. Dr. Prout is not here enumerated as a discoverer; he is cited, however, in various places throughout the work, as an observer and analyst, and always with great respect.

The writer of this sees no benefit likely to accrue from inserting in these pages any abstract of Professor Berzelius's chemical description of the urine. The achievement is scarcely possible. Professor Berzelius's style is concise; and nothing is to be spared. To form or approach an adequate estimate of the subject, it is necessary to have recourse to the original, and to bestow patient labour upon it. We shall note some of the points most likely to be borne in the memory of a practitioner of medicine not already conversant with this branch of inquiry.

After the rather free employment of mercurial ointment, the urine contains mercury, and becomes alkaline; and its sediment, dried, and distilled with powdered charcoal, yields globules of the metal just named. Nitre, ferro-prussiate of potassa, and other salts, are found in the urine, and after the use of a large quantity of a preparation of iron, a faint bluish or greenish tinge has sometimes been found in this fluid, from the formation and union with iron of a portion of ferrocyanic acid, derived from materials within the body. After oxalic or tartaric acids have been taken by the mouth, the urine, when cool, deposits oxalate or tartrate of lime, and this is increased by the addition of chloride of calcium. Tartaric, as well as citric and malic acids, render the urine acid. After the use of infusion of galls, that fluid gave dark coloured precipitates with the salt of iron. Succinic acid appears in the urine; and benzoic, as explained by Professor Woehler, in an addition which Messrs. Boyé and Leaming introduce as a foot note, is transformed into the hippuric. This is alluded to in the work of Mr. Bence Jones, reviewed in the present number. After the use of iodine, the iodides of sodium and ammonium appear. Alkaline carbonates, borates, silicates, chlorates and nitrates were always found to pass into the urinary fluid; as was also sulpho-cyanide of potassium. Red ferro-prussiate was converted into ordinary ferro-prussiate. Sulpho-hydrate of potassium was partly discharged unchanged; but principally converted into sulphate of the same base. Salts of vegetable acids with potash and soda were converted into carbonates; and the urine showed alkaline properties and effervesced with acids. The same thing frequently happens after the free use of certain fruits; as apples, cherries, strawberries and raspberries, from these containing acid malate or citrate of potassa. This explains the utility of such fruits in cases of uric acid gravel. Students of an older date will recollect the often repeated case of Linnæus, said by himself to have been cured of an attack of gout by strawberries. The colouring and aromatic principles of plants enumerated as passing by the urine, we will not copy. Articles which will not pass by the urine, are alcohol, ether, camphor, empyreumatic animal oil, musk, the colouring matter of cochineal, litmus, sap-green (from the fruit of *rhamnus catharticus*), alkanet, oxides of tin, and preparations of lead and bismuth. The same is alleged of mineral acids; which, it is stated, never render the urine acid. (p. 108.) This last remark, which differs from Bence Jones, ought to be well understood. Dr. Prout recommends the use of mineral acids, as antalkaline; and mentions the use of them in one of his cases; though, in this instance, the remedy is said to have disagreed with the patient. (*Nature and Treatment of Stomach and Urinary Diseases*, 285-293.)

We have not space for the phenomena produced by disease, nor can we do justice by abridging them. Professor Berzelius agrees with the Hippocratic description of the urine in fevers; and differs from M. Becquerel. (p. 109. See this Journal, Jan. 1842, pp. 161, 162.) Severe vomiting is followed by the elimination of a small excess of phosphate of lime. (p. 111.) In rheumatism there is, as theory would lead us to anticipate, a considerable excess of lithic acid; an argument, if the views of Professor Liebig and Mr. Bence Jones be correct,

in favour of the treatment of that disease by purging, found so successful in practice. It is unnecessary for us to add that we omit much that possesses great interest and value. The treatment for prevention of calculus (p. 158) harmonizes well with the chemical views generally entertained. Professor Berzelius thinks that trials of injections to dissolve the stone ought still to be persevered in. In general, the best injection is a tepid solution of one part of carbonate of potassa with from 90 to 100 parts of water, and a little mucilage; as it acts on all kinds of calculi, and caustic potassa operates too severely on the membranes. Borax may be used when the calculus is ascertained to consist of uric acid. He suggests the chlorohydric acid, with a large quantity of mucilage, for calculi consisting of phosphate of lime and cystine.

Of the rules for examination of the urine in medical practice we shall not venture on giving any account. We are informed that Messrs. B. and L. originally made this translation for their private use; but it has been published with the object of encouraging and enabling physicians in practice to establish the habit of examining the urine chemically. For this we are sure it is well suited; while our abstracts could be of no use. It is in general the only volume from which American practitioners, remote from cities, can obtain this invaluable information. We can recommend the publication in the strongest manner. No question exists of the merit of the original. The translation is neat and clear; and unusually well executed for this really difficult department of medical literature. The volume is handsome, and got up in a liberal style of execution.

B. H. C.

ART. XIX.—*Lithotripsy; or, the Breaking of Stone in the Bladder*. By ALBAN GOLDSMITH, M. D., late Professor of Surgery in the Medical College of Ohio, and the College of Physicians and Surgeons New York. New York, 1813, pp. 24, 8vo.

THIS purports to be an abstract from the lectures of the author, delivered while holding the Professorship of Surgery in the Medical College of Ohio and the College of Physicians and Surgeons in New York. Of the work, it is sufficient to say that it is "only intended for general distribution," and that whether we consider its scientific or literary claims, it is about on a par with Mr. Swain's book of cures. Its sole object is to puff and advertise its author; and every friend to the respectable institutions mentioned, as well as every right-minded member of our profession, must feel gratified to think that previous to his publication, Dr. Goldsmith had left his high estate and was no longer connected with them. Publications such as this, and the disgusting picture pamphlets which it is now the order of the day to circulate as standing advertisements for operations, though they may for a time have effect with "the many," and bring money to the pocket, cannot we think but lead to loss of reputation and contempt among all upright and honourable professional men. We long deemed it proper to pass unnoticed the pamphlets of those who were thus led astray, but when we see them fearfully increasing, and see too, men who occupy high places degrading their stations and the whole profession by employing collectors to scour our lanes and alleys for cases, and countenancing secret remedies, we think it right to direct attention to the system, in the hope of effectually and at once subduing it. A vain hope we cannot think it, and confidently look forward to the time when medical advertisers, whether for the cure of stone, strictures, deformities, or coughs, and whether by means of newspapers, pamphlets, medical journals, envelopes, or collectors, shall receive all that reward and renown to which they are justly entitled.

G. W. N.

ART. XX.—*Physical Diagnosis and Diseases of the Lungs.* By WALTER HAYLE WALSHE, M. D., Professor of Pathological Anatomy in University College, London; Physician to the Hospital for Consumption and Diseases of the Chest; Member of the Medical Society of Observation of Paris, etc. Philadelphia: Lea & Blanchard, 1843.

THIS work is in one volume duodecimo, including 380 pages and a copious index. It is especially intended by its author as a manual for students, in their investigations of physical diagnosis, as applied to diseases of the respiratory organs. There are, however, but few practitioners who might not derive much useful information, and many practical hints from a careful perusal of its pages.

The first part of the work includes all the physical signs derived from auscultation, percussion, inspection, manual examination and mensuration of the chest, both in the healthy and diseased condition of the lungs; and these different subjects are handled in a concise and masterly manner.

In treating of inspection or ocular examination of the chest, particular allusion is made to the numerous deformities of the chest which occur unconnected with pulmonary disease. "It is obvious that the chief, almost the sole, clinical importance attached to these "physiological" departures from regular form, consists in the chance of their being confounded with, or mistaken for, alterations of shape dependent on disease. Their frequency indicates the necessity of being acquainted with them; in 197 cases there existed 251 examples of *natural* heteromorphism; 144 of these occurring in 111 subjects who had had thoracic disease; 107 in 86 individuals who had all their lives been perfectly free from such disease." p. 157.

The section devoted to mensuration is remarkably complete, and contains much valuable and practical information. Mention is made of the unequal dimensions of the two sides of the chest; the right side exceeding the left, by half an inch in right-handed individuals. Practical rules for the performance of mensuration, and the most appropriate instruments, together with those precautions which are essential for the prevention of error, are fully detailed in the same chapter.

The degree of clearness, duration of sound, the amount of resistance experienced by the fingers in the act of percussion, and the relative importance of these different phenomena, are described, and illustrated by familiar facts.

One of the varieties of sound mentioned by the author as derived from percussion, is the "wooden." The wooden character is very closely allied to that of the sound yielded by mediate percussion of a common table, and distinctly conveys the idea of hardness. The duration of the sound having this character is commonly less than in the natural state, and the sense of resistance experienced by the fingers is usually great. The author then refers to the physical cause of this sign. "I am inclined to think, from the experience I have hitherto had on the subject, that when well marked it may be considered almost a conclusive sign of a thick and dense stratum of fibrous substance in the pleura, binding the lung and parietes together. No amount of fluid in the pleural cavity, or of consolidation of the lung itself, seems capable of producing it to a marked amount; but all descriptions of consolidation, when false membrane is present in abundance, produce it more or less." p. 177.

The most interesting part of the work is to be found under the head of "Auscultation." The various improvements in this department of physical diagnosis are referred to, and due credit is faithfully given to the different authors by whom they were first noticed.

When treating of the respiratory murmur during expiration, Dr. Walshe uses the following language: "To the late Dr. Jackson, jun., of Boston, U. S., belongs the honour of conceiving the value and extent of information which might be obtained from its analysis. In a most ingenious paper, read in 1832 before the Medical Society of Observation of Paris, that zealous inquirer forcibly drew attention to the subject."

The author's views are highly independent, and he does not hesitate to ex-

press them fully, even when they differ with high authorities; nor is the work deficient in ingenuity and originality of conception. That the expiration is naturally louder and more prolonged under the right than the left clavicle, is fully believed by many accurate observers; but our author does not subscribe to this opinion, nor is he disposed to admit that "the excess of caliber of the right bronchus over the left" is sufficient to account for such dissimilarity in the local signs.

No one of the signs derived from auscultation has given rise to more discrepancy of opinion as to its physical cause, than the crepitant rhonchus. The opinion most commonly adopted, is, that the passage of air through a viscid fluid contained in the air cells, fully explains the peculiarity of this rhonchus. Dr. Walshe's view upon this subject is certainly highly ingenious. "It seems to me most probable that, 1st, The phenomenon occurs in the parenchyma of the lung itself, especially in those portions of it immediately contiguous to, and actually forming the walls of, the ultimate terminations of the bronchi; whether these terminations be globular sacs open at one point of their periphery only, or otherwise constituted: 2ndly, That its physical cause is the sudden and forcible expansion of that parenchyma, glued together, as it were, by the viscid exudation with which it is infiltrated. Each single crepitus or click would thus signify the expansion of a cell, and be produced by the unfolding and surrounding glutinous tissue necessary for that expansion. Thus conceived, as respects its mechanism, the chief phenomena of the crepitant rhonchus become perfectly intelligible; its dryness and sharpness; the sensation of minute size attending the sounds of which it is composed; the similarity to the sound of minute rupture of tissue, and the total absence of the bubbling character; its occasionally accompanying the entire inspiratory act, and sometimes appearing only at its close, according as the infiltration of viscid lymph less or more completely prevents expansion of the vesicles. We can, on this supposition, also readily understand why crepitation should exist in the inspiration only; though the rapid and abrupt unfolding of the glutinous mass be productive of crackling noise, it is very unlikely that the comparatively slow and equable restoration of the tissue to its previous collapsed state, would be thus productive,—indeed the presumed physical cause of crepitus has ceased to exist: on the other hand, there is no reason why in the ordinary theory crepitation should not as regularly exist, though not with the same *loudness*, in expiration as in inspiration." pp. 241-2.

The second part of the work is in a tabular form, and contains a full exposition of the causes, and locality of the different physical signs. The names of the diseases in which the various signs are most commonly observed, are also carefully enumerated.

The third part, comprising about one-half of the volume, forms a commentary upon the two preceding divisions. Under this head various "debateable points" are impartially discussed, and copious references made to the views entertained by different acknowledged authorities. It is to be regretted that "all disquisition upon the acoustic principles regulating the production and transmission of sounds," have been scrupulously avoided by our author when treating of the mechanism of the various physical signs. An unwillingness to increase the size of the book, "or deprive it of the simple practical character," are the reasons assigned for this omission.

We have thus endeavoured to give a general idea of the plan of the present work; but it would be impossible in a short notice like the present, to do justice to the various points of interest contained in the commentary. Before closing, we would strongly recommend this little volume to students and the profession at large, as a useful guide and book of reference.

W. P.

ART. XXI.—*A Practical and Theoretical Treatise on the Diagnosis, Pathology, and Treatment of Diseases of the Skin, arranged according to a Natural System of Classification, &c.* By ERASMUS WILSON, Lecturer on Anatomy and Physiology in the Middlesex Hospital School of Medicine, &c. Philadelphia. Lea & Blanchard, 1843, 8vo. pp. 370.

THE possession of a well-considered and systematic classification has been found to be so indispensably necessary to a successful prosecution of the study of the diseases of the skin, that much effort has been made by successive observers to establish one which shall meet every want. The greatest difficulty, however, has hitherto been met with in arranging the various forms into distinct natural groups, and as a consequence the artificial system of Willan, which is as perfect as an artificial system can be, has long remained in favour. Undismayed by the unsuccessful efforts of his predecessors to substitute for this a *natural classification*, Mr. Wilson has, in the work of which the title is placed at the head of this notice, presented us with one "in which he has endeavoured to avoid the objections which may be urged against the artificial arrangement," and claims for it the name of "The Natural System."

"The basis of the Natural System of classification rests upon Anatomy and Physiology, and herein lies its strength, its simplicity, its easy application, and its truth. The dermis and its dependencies, its glands, and its follicles, are the undoubted seat of all the changes which characterize cutaneous Pathology. These then constitute my four *Primary Divisions*:—

- I. Diseases of the Dermis.
- II. Diseases of the Sudoriparous Glands.
- III. Diseases of the Sebaceous Glands.
- IV. Diseases of the Hair and Hair follicles."

In the First class, under its five *Secondary Divisions*,

1. Inflammation of the Dermis.
2. Hypertrophy of the Papillæ of the Dermis.
3. Disorders of the Vascular Tissue of the Dermis.
4. Disorders of the Sensibility of the Dermis.
5. Disorders of the Chromatogenous Function of the Dermis,

is arranged almost the whole circle of Cutaneous diseases. Indeed, if we except Acne and Sycosis, which are placed among the diseases of the sebaceous glands, and Favus, properly studied among the diseases of the hair-follicles, all the important and serious alterations and affections of the skin are grouped together among the Diseases of the Dermis.

There is one point which we cannot pass over without an expression of surprise; it is in reference to the strange notions of our author respecting the nature and origin of Variola. We will first advert to the position which he has assigned to it and its commonly received kindred affections Vaccinia and Varicella in his Natural System.

The first division of the disease of the dermis, namely, inflammation of the dermis, is separated into two groups, "such as are characterized by *inflammation of the Dermis and mucous membranes with constitutional symptoms of a specific kind*; and such as consist simply of *inflammation of the dermis without constitutional symptoms of a specific kind*, the mucous membranes being less conspicuously disordered."

Under the former of these groups are placed Scarlatina, Rubeola, Variola and its kindred affections. Now while we cheerfully accord with our author in this collocation, on the ground that there is an advantage in studying together what are usually termed the Eruptive Fevers, from their resembling each other in many particulars, yet upon the basis assumed by Mr. Wilson, that they are "diseases originating in the same morbid contagion, the differences between them depending on modifications either of the physical or of the vital conditions of the system by which the contagion is received," we must protest against it, until something

more positive in support of such a doctrine is advanced than the bare assertion of the writer.

The general principles of the classification in other particulars appear to be sound, and much credit is due to the author for having left unchanged the commonly received names of the cutaneous diseases. There is no innovation here; and the student has only to classify his ideas under new heads, without being compelled to burthen his memory with new terms.

But we must now proceed from the preface, which contains the author's remarks upon his Natural System and upon those advocated by other writers, to a brief examination of the other contents of the work. The first chapter is devoted to a consideration of the Anatomy and Physiology of the skin; it is a full and complete account of the various parts of which this tissue is composed, and of the interesting functions which it performs. In the descriptions, which are methodical and distinct, the author has freely availed himself—as by the way is the case throughout the book—of the recent analyses and microscopical investigations which have been so carefully made in England, France, and Germany, but more particularly in the last.

Having thus prepared the ground, Mr. Wilson enters upon the study of the different diseases under their respective groups or divisions. Suffice it to say, that the account of the history, diagnosis and treatment of the diseases under consideration is practical and full. In some few points of practice, however, he appears to have arrived at conclusions which are not, we believe, in accordance with the generally received opinions of medical men, at least in this country.

The subject of vaccination as a means of protection against small-pox is carefully examined, and our author adds his testimony to the experience of others in insisting upon a careful performance of this operation. Among the elements which constitute a perfect vaccine vesicle, he lays it down as essential that it should be allowed to run its course unmolested for the purpose of extracting lymph. This we fear is too often neglected, and the safety of many who were supposed completely protected, is thus endangered. Re-vaccination is relied upon as the best, and an efficient test of the excellence of the previous vaccination; and is recommended “as a simple and harmless operation, producing a mild and trifling indisposition when the system is unprotected, but no effect whatever when the organism is safe.” The only question is relative to the length of time during which vaccination affords protection, as no positive law can be established here. Mr. Wilson recommends that it should be repeated every five, or seven, or ten years, according as the individual manifests a susceptibility for its reception.

A short chapter is devoted to Syphilitic eruptions, and the work concludes with an historical and descriptive account of the *acarus scabiei* or itch-animalcule, and of the *acarus folliculorum*, of which a drawing is given, an insect, which in his researches “relative to the cause of acne, Dr. Gustav Simon of Berlin, had the good fortune to discover in the sebaceous substance with which the hair-follicles are so commonly filled, particularly on the face,—even in cases where the skin presents all the characters of perfect health.”

Before closing this notice, we would advert to a matter of some moment; it is that the corrections of the press have not been as carefully made in this work, as they usually are in those emanating from the publication office of the enterprising firm which stands sponsor here. Two of these errors are calculated to lead to important misconceptions. We refer to one, page 116, paragraph 162—Mr. Wilson is made to say, by the omission of a little particle, “Recurrence to the primary lymph from the cow appears to me to be the only *objectionable* method of improving the current lymph, &c.” Now his opinion is directly the contrary. Again, page 223, paragraph 403—“Several *cases* of psoriasis have followed the employment of the liquor hydriodatis arsenici et hydrargyri”—when it is evident from what follows that our author means to speak of *cures*. The last, however, occurs in the original work.

In conclusion, we can recommend this book to the profession as a useful and practical work.

C. R. K.

ART. XXII.—*Mental Hygiene; or, an Examination of the Intellect and Passions, designed to illustrate their Influence on Health and the Duration of Life.* By WILLIAM SWEETSER, M. D., late Professor of the Theory and Practice of Physic, &c., New York: J. & H. G. Langley, 1843, pp. 270, 12mo.

WE have here an agreeable, well written, and carefully digested treatise on one of the most interesting branches of medical inquiry; the influence of mind upon matter, or, in other words, of the intellect and the passions upon the functions and health of the body. Our author has sought to awaken attention, and to direct it when so excited, to the investigation of the important truths which are embraced in mental hygiene, and has brought to his assistance much apt and well arranged illustration, though, perhaps, not as recent as he might have obtained.

The work is divided into two parts. The first, is occupied with an examination of the intellectual operations in their relation to the functions of the body and of their effect upon the general health. Dr. Sweetser shows the importance of a proper cultivation of the intellect, and also that the evils resulting to the constitution from intellectual exertions, excepting when these are carried to too great an extent, are not the consequence of the mere intellectual effort, but depend upon the passions which are found almost invariably to mingle their poison with the draughts of knowledge which the student seeks to drain, or upon an inattention to the proper rules of exercise and diet, so essential to the maintenance of health. Indeed, abundant proof exists, that the votaries of science and of knowledge are, *cæteris paribus*, among the longest-lived of the human race.

In the second portion of the book, the passions are shown in their effects upon the health. They are divided into the pleasurable, the painful, and the mixed, and are studied at much length under these several heads. We cannot close this brief notice better than with this general proposition deduced by the author from his examination of the passions: "Having reference only to the laws of our present organization, it seems to me that no truth can be more plain than that pure and well-regulated moral affections are essential to the greatest good of the entire animal economy, that the turbulent and evil passions must necessarily corrupt the sources of our physical, moral, and intellectual health, and thus be followed by the severest penalties to our whole nature." C. R. K.

ART. XXIII.—*Meteorology; comprising a description of the atmosphere and its phenomena, the laws of climate in general, and especially the climatic features peculiar to the region of the United States; with some remarks upon the climates of the ancient world, as based on Fossil Geology.* By SAMUEL FORRY, M. D. Extra New World, New York. J. Winchester, 1843.

THE object of Dr. Forry in this work is to give a general view of Meteorology, in its relation to the laws of climate, and at the same time to present some interesting researches respecting climatology, both in its general aspect, and, more particularly, in its peculiar bearings upon the region of the United States.

The readers of this journal are already well acquainted with the labours of the author in this department of science, the results of which he has formerly laid before them in several able papers. It is, therefore, sufficient to mention here, that these deductions and others of a more general nature are contained within the pages of the work before us, and that the whole matter has been arranged in a form which will render it particularly valuable to the general reader. It is well known, that the medical board of the army has compiled for the use of the officers at the different military stations throughout this extensive country, a series of directions to which they must conform and by which they are to be guided in making meteorological observations. But it so happens that the central portions of the Union are almost entirely without military posts,

which are arranged along two lines, following the sea-coast and the Mississippi. So that the observations, perfect as far as they go, must be to a certain extent defective as regards the central States. Individuals scattered throughout these must, therefore, be induced to lend their aid, to fill up the chain.

In furtherance of this object, we think that the book before us will have a good effect. By rendering the subject interesting and by setting forth the results already obtained, at the same time that the method of reaching them is simply yet sufficiently explained, we doubt not that many will be induced, from reading the book, to apply themselves to the collection of facts; more particularly so, as there are really no very serious obstacles to deter them from it.

The concluding chapter contains an account, from the pen of Dr. C. A. Lee, of the climates of the ancient world, for which the materials are drawn from fossil geology.

C. R. K.

ART. XXIV.—*A Conspectus of the Pharmacopœias of the London, Edinburgh, and Dublin Colleges of Physicians, and of the United States Pharmacopœia, being a Practical Compendium of Materia Medica and Pharmacy.* By ANTHONY TODD THOMSON, M.D., F.L.S. &c. The second American edition, much enlarged and improved. Edited by CHARLES A. LEE, M.D. From the thirteenth English edition, 12mo., New York, 1843. J. & H. G. Langley.

THE author of this work, Dr. Thomson, has long laboured in the department of materia medica, and among the numerous authors who have contributed to its improvement, may at the present time be regarded as a patriarch. His works are generally very voluminous, but in the present instance, he has abandoned his wonted course, and by considerable pains-taking, has given to the public what may be termed a labour-saving production. The arrangement of the volume is alphabetical, and it comprises the different articles and their preparations. Each article is designated by the name it possesses in the Pharmacopœias, and there are indicated in succession, its natural history, its source, the portion of the world whence derived, its composition, properties, operation, use, dose, and officinal preparations. To chemical substances are added the incompatibles. Under each preparation, to be found in its appropriate position, is given the mode of obtaining it with the formula which has been directed by the London Pharmacopœia usually.

Upon the plan specified, the main body of the work has been executed, but preceding it is an introduction, which is a condensed pharmaceutical essay, and following it is an alphabetical exposition of poisons, the analysis of urine, the art of prescribing medicines, with prescriptions and dietetic preparations, tables of chemical affinity, &c., weights and measures, directions for preparing baths, and the composition of the most noted mineral springs.

With regard to this little production, we fully endorse what is stated by the American editor in his preface, that "it is in reality a complete summary or comprehensive epitome of the science of pharmacy and materia medica; comprising an amount of information altogether unparalleled, we believe, in so small a space." His labours have been directed to supplying such deficiencies as appeared to him to exist, and "advantage has therefore been taken of the recent publication of the new edition of the *United States Pharmacopœia*, and its improved processes and new preparations, together with its nomenclature, will be found embodied in these pages." The indigenous articles of the United States have been added.

J. C.

ART. XXV.—*Transactions of the Medical Society of the State of New York.* Vol. V. Part III., 8vo. Albany, 1843.

THIS, like its predecessors, is an interesting contribution to our sciences. The contents are the Annual Address (an excellent one) of the President; an admirable exposition of that transcendentalism of humbuggery—Homœopathy, by Dr. Blatchford; an interesting paper on Insanity, by Dr. Coventry; Medical and Topographical Sketches of Binghamton and the surrounding country, by Dr. N. S. Davis; and an abstract of the proceedings of the society at its annual session in February, 1843.

ART. XXVI.—*Fifty-sixth Annual Report of the Regents of the University of the State of New York*, made to the Legislature March 1, 1843. Albany, 1843. pp. 316, 8vo.

THIS is an interesting document. It contains a general view of the matters contained in the annual reports made to the Regents by the several colleges and academies of the state—showing the financial condition of, courses of study in, number of students in, &c. each of these institutions. Also an abstract of the returns of Meteorological observations for the year 1841, made by the academies in the state.

There are four medical colleges in the state, and the number of pupils the past session, was 667.

ART. XXVII.—*Quarterly Summary of the Transactions of the College of Physicians of Philadelphia*, February, March, April, 1843.

THIS number of the Transactions of the Society contains the annual reports “on the Diseases of Women,” and “on the Diseases of Children.” The former is by Dr. Jos. Warrington, and the latter by Dr. D. F. Condie. They are both interesting papers, the latter particularly, but they contain no facts of importance that have not already appeared in this journal, and we need not therefore give an analysis of them.

ART. XXVIII.—*A Practical Treatise on the Management and Diseases of Children.* By RICHARD T. EVANSON, M. D., Professor of Med. in the Royal College of Surgeons, Ireland; and HENRY MAUNSELL, M. D., Professor of Political Med. in the Royal College of Surgeons, Ireland. Second American edition, from the fourth Dublin edition, with Notes by D. FRANCIS CONDIE, M. D., F. C. P. P., Memb. A. P. S., &c. Philadelphia. Ed. Barrington & Geo. W. Haswell.

THIS work has been remarkably successful in Great Britain, having gone to a fourth edition in less than six years, and will, we are sure, meet with favour in this country. “It embraces,” as the editor correctly observes, “a very full account of the principal affections peculiar to the early period of existence—the phenomena of which are described with great accuracy, while the views advanced in relation to their pathological, as well as the directions given for their therapeutical management, are evidently the result of extensive personal observations, and a careful study of the views and experience of the best modern authorities.”

The principal additions of the editor are to the sections devoted to the subjects of gangrene of the mouth in children, and to cholera infantum. The brief notice of the former in the original “being extremely incomplete, and withal somewhat

confused," the editor has "appended an account of the symptoms, etiology, and treatment of this important malady, derived from his own observations, and those of the principal European writers who treat especially of the disease. A similar course has been pursued in relation to the account of cholera infantum, contained in the same chapter; a disease of which Dr. Evanson has evidently seen but little, and which he has strangely confounded with another and very different disease of the digestive organs."

These additions are well drawn up—they show the editor to be not only familiar with infantile diseases from extensive experience, but that he is also well acquainted with the literature of the subject, and will lead the profession to expect much from the original work which is announced as in preparation by him for early publication.

ART. XXIX.—*Dissertation on the Diseases of the Maxillary Sinus*. By CHAPIN A. HARRIS, M. D., D. D. S., Prof. of Practical Dentistry in the Baltimore College of Dental Surgery; Member of the Medical and Chirurgical Faculty of Maryland; Corresponding Member of the Western Academy of Natural Sciences, &c. &c. Philadelphia, Lea & Blanchard, 1843, pp. 165, 8vo.

THIS Memoir was read before the American Society of Dental Surgeons, at their third annual meeting held in Boston in July last. The author was led to its preparation, from a belief, which appears to us to be well founded, that a short and at the same time comprehensive treatise on the morbid affections of the maxillary sinus, would not be altogether unacceptable to the members of the Dental profession.

The author, after some general observations on the morbid affections of the antrum maxillare, treats in succession of the inflammation of its lining membrane, of a purulent condition of its secretions and engorgement, of abscess, of ulceration of the lining membrane, of caries, necrosis and softening of its bony parietes, of tumours of its lining membrane and periosteum, of exostoses of its osseous parietes, and of wounds of its parietes and foreign bodies in it.

In discussing these various affections the author has displayed very great research, and adduced numerous cases illustrative of the different forms of disease from the various periodical journals, as well as from some of the older writers, whose works are not easily accessible.

This volume will not only be of value to the dentist but also to the surgeon, some of the affections originating in the maxillary sinus often involving the whole upper-jaw, and requiring not unfrequently the extirpation of the parts involved.

ART. XXX.—*A System of Clinical Medicine*. By ROBERT JAMES GRAVES, M. D., M. R. J. A., one of the Physicians to the Meath Hospital and County of Dublin Infirmary, &c. &c. Dublin, 1843, pp. 937, 8vo.

WE congratulate the profession upon the appearance of the valuable clinical lectures of Professor Graves, revised and systematically arranged by the author. The lectures on fever have in this volume been completely remodelled, and those on typhus fever have "assumed an entirely new form."

"For many years," Dr. G. observes, "several of the doctrines I promulgated respecting fever, were opposed to those taught by other lecturers and generally advocated by authors; and consequently I was then obliged to dwell on such disputed questions at greater length than perhaps their intrinsic importance would now seem to warrant; formerly I stood almost alone in resisting the inflammatory theory of fever, as successively brought into fashion by Armstrong, Clutterbuck and Broussais, and my opinions respecting contagion, the use of

mercury, purgatives, of wine, diet, &c. were different from those then generally entertained: and therefore it was that such topics occupied so considerable a space in the original lectures, and are treated of at some length in the present volume. While engaged in the task of preparing for the press, I have consulted many of my medical friends, both in Dublin and the Provinces, on various subjects, and by this means having been enabled to avail myself of the experience of others where my own was deficient, much valuable information has been gained, and the courtesy of my professional brethren has produced communications which will no doubt be received by the public with a degree of favour proportioned to the gratitude the author feels to his friends for their valuable assistance."

Besides the clinical lectures, this volume contains observations on the nature and treatment of various diseases, being a republication of the papers published by the author at different times in the *Dublin Medical Journal*.

Our Journal has already been enriched with some of the valuable materials contained in this work, and we shall hereafter draw still further from the same source.

ART. XXXI.—*The Horse*. By WILLIAM YOUATT. A new edition, with numerous Illustrations, together with a General History of the Horse, &c., and an Essay on the Ass and the Mule. By J. S. SKINNER, Editor of the *Turf Register*, &c. Philadelphia, Lea & Blanchard, 1843, pp. 448, 8vo.

VETERINARY medicine does not come within the strict scope of this Journal; nevertheless there are many of our readers who are doubtless interested in the subject, and we would call the attention of those to the work of Mr. Youatt, which comes out with high sanction, being published under the superintendence of the Society for the diffusion of useful knowledge.

The first edition of this work was published in 1831, and met with great success. The considerations which led to the present edition are the following, as stated by the secretary of the committee in the preface.

"Veterinary science has, however, made great progress in the last twelve years; the structure of the horse, the injuries and diseases to which he is subject, and the treatment of these, have been investigated, in this country and abroad, with much diligence and success, both at colleges and in societies devoted to the cultivation of veterinary knowledge, and by practitioners whose education and experience render their observations worthy of great respect.

"In these circumstances, the society entrusted to the author the preparation of a new edition of this treatise; and he has subjected it to so complete a revision, as to render it in many respects a new work. This remark applies especially to the chapters relating to the diseases of the horse."

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On Fissiparous Generation.*—DR. MARTIN BARRY, in a memoir read to the Royal Society on the 16th of February last, observes that the blood corpuscle and the germinal vesicle resemble one another in the circumstance of an orifice existing in the centre of the parietal nucleus of both. He pursues the analogy still further, conceiving that as a substance of some sort is introduced into the ovum through its orifice, which the author terms *the point of fecundation*, so the corpuscles of the blood may undergo a sort of fecundation through their corresponding orifice; and also that the blood-corpuscle, like the germinal vesicle, is propagated by self-division of its nucleus; a mode of propagation which he believes to be common to cells in general. The nucleus of the germinal vesicle, or original parent cell of the ovum, gives origin, by self-division, to two young persistent cells, endowed with qualities resulting from the fecundation of the parent cell; these two cells being formed by assimilation, out of a great number of minuter cells which had been previously formed. This account of the process which takes place in the reproduction of the entire organism, explains, according to Dr. Barry, the mysterious reappearance of the qualities of both parents in the offspring.

Certain nuclei, which the author has delineated in former papers as being contained within and among the fibres of the tissues, he conceives to be, in like manner, centres of assimilation, from observing that they present the same sort of orifice, that they are reproduced by self-division, and that they are derived from the original cells of development; that is, from the nuclei of the corpuscles of the blood. He considers that assimilation of the substance introduced into the parietal nucleus of the cell is part of the process which propagates the cell; that the mode of reproduction of cells is especially fissiparous, and that the process of assimilation prepares them for being cleft.

A pellucid point is described by the author as being "contained in a certain part of the cell-wall, and as representing the situation of a highly pellucid substance, originally having little if any colour." This substance, which he considers as being primogenital and formative, he denominates *hyaline*, and ascribes to it the following properties. It appropriates to itself new matter, thus becoming enlarged; then divides and subdivides into globules, each of which passes through changes of the same kind. Under certain circumstances, it exhibits a contractile power, and performs the motions called *molecular*. It is the seat of fecundation, and it is by its successive divisions that properties descend from cell to cell, new properties being continually acquired as new influences are applied; but the original constitution of the hyaline not being lost. The main purpose for which cells are formed is to reproduce the hyaline; and this they do by effecting the assimilation which prepares it to divide; such division being thus the essential part of fissiparous generation.

The remaining part of the paper is occupied with a detailed account of these

processes as they occur in the development of the ovum, and also in the changes exhibited by the corpuscles of the blood, in which fissiparous reproduction also takes place, and the red blood-discs are converted into fibrin, and thus give origin to the various tissues of the organs. The same theory of fissiparous reproduction he also applies to the formation of the muscular fibre, in connection with his belief that it is composed of a double spiral filament. Contractile cilia, he supposes, are also formed by the elongation of nuclei, the filaments proceeding from them in opposite directions. The author considers, lastly, the subject of the fissiparous reproduction of the infusoria, and particularly of the *volvox globator*, the *chlamydomonas*, *bacillaria*, *gonium*, and the *monodina* in general; and applies the same theory to gemmiparous reproduction, and to the so-called spontaneous generation of infusoria and parasitic entozoa.—*Proceedings of the Royal Society*.

2. *Blood Corpuscles*.—T. WHARTON JONES, Esq. in a paper read to the Royal Society (Dec. 8, 1842) pointed out what he conceives to be important errors in the series of papers by Dr. Martin Barry, which have lately appeared in the Philosophical Transactions. He alleges that Dr. Barry had generally confounded the colourless corpuscles of the same fluid; each of which latter kind consists of a vesicle or cell, with thick walls, but in a collapsed and flattened state, having therefore a biconcave form, and in consequence of its thick wall being doubled on itself, presenting under the microscope a broad circumferential ring, which is illuminated or shaded differently from the depressed central portion, according to the focal adjustments of the instrument: while the colourless corpuscles, on the other hand, are of a globular shape, strongly refractive of light, and granulated on their surface, and are of a less specific gravity and of somewhat larger size than the red corpuscles.

Mr. Jones regards as wholly erroneous the notion which Dr. Barry entertains that a fibre exists in the interior of the blood corpuscle; and that these fibres, after their escape from thence, constitute the fibres which are formed by the consolidation of the fibrin of the *liquor sanguinis*. The beaded aspect presented by the double contour of the thick wall of the red corpuscle when it had been acted upon either by mechanical causes or by chemical reagents, of which the effect is to corrugate the edge, and to bend it alternately in opposite directions, has, Mr. Jones thinks, given rise to the illusive appearance of an internal annular fibre. The appearance of flask-like vesicles presented by some of the red corpuscles, with the alleged fibre protruding from their neck, Mr. Jones ascribes altogether to the effects of decomposition, which has altered the mechanical properties of the corpuscle, and allowed it to be drawn out, like any other viscid matter, into a thread. In conclusion Mr. Jones remarks, that if these statements of Dr. Barry should be recognized as fundamental errors in his premises the whole reasonings built upon them must fall to the ground.—*Proceedings of the Royal Society*, No. 56.

3. *Structure and Composition of Nerves*.—DR. JAMES STARK, in a paper read before the Royal Society in January last, gives the results of his examinations, both microscopical and chemical, of the structure and composition of the nerves, and concludes that they consist, in their whole extent, of a congeries of membranous tubes, cylindrical in their form, placed parallel to one another, and united into fasciculi of various sizes; but that neither these fasciculi nor the individual tubes are enveloped by any filamentous tissue; that these tubular membranes are composed of extremely minute filaments, placed in a strictly longitudinal direction, in exact parallelism with each other, and consisting of granules of the same kind as those which form the basis of all the solid structures of the body; and that the matter which fills the tubes is of an oily nature, differing in no essential respect from butter, or soft fat; and remaining of a fluid consistence during the life of the animal, or while it retains its natural temperature, but becoming granular or solid when the animal dies, its temperature is much reduced. As oily substances are well known to be nonconductors of electricity, and as the

nerves have been shown by the experiments of Bischoff to be among the worst possible conductors of this agent, the author contends that the nervous energy can be neither electricity, nor galvanism, nor any property related to those powers; and conceives that the phenomena are best explained on the hypothesis of undulations or vibrations propagated along the course of the tubes which compose the nerves, by the medium of the oily globules they contain. He traces the operation of the various causes which produce sensation, in giving rise to these undulations; and extends the same explanation to the phenomena of voluntary motion, as consisting in undulations, commencing in the brain, as determined by the will, and propagated to the muscles. He corroborates his views by ascribing the effects of cold in diminishing or destroying both sensibility and the power of voluntary motion, particularly as exemplified in the hybernation of animals, to its mechanical operation of diminishing the fluidity, or producing solidity in the oily medium by which these powers are exercised.—*Proceedings of the Royal Society*, No. 56.

4. *On the special Function of the Skin.* By ROBERT WILLIS, M. D.—The purpose which is answered in the animal economy by the cutaneous exhalation has not hitherto been correctly assigned by physiologists. Dr. Willis believes it to be simply the elimination from the system of a certain quantity of pure water; and he considers that the saline and other ingredients which pass off at the same time by the skin, are in too inconsiderable a quantity to deserve being taken into account. He combats, by the following arguments, the prevailing opinion, that this function is specially designed to reduce or to regulate the animal temperature. It has been clearly shown, by the experiments of Delaroche and Berger, that the power which animals may possess of resisting the effects of a surrounding medium of high temperature, is far inferior to that which has been commonly ascribed to them; for, in chambers heated to 120° to 130° F., the temperature of animals is soon raised 11°, or even 16° above what it had been previously, and death speedily ensues. The rapid diminution, or even total suppression of the cutaneous exhalation, on the other hand, is by no means followed by a rise in the temperature of the body. In general dropsies, which are attended with a remarkable diminution of this secretion, an icy coldness usually pervades both the body and the limbs. A great fall in the animal temperature was found by Pourcauld, Becquerel and Breschet to be the effect of covering the body with a varnish impervious to perspiration; and so serious was the general disturbance of the functions in these circumstances, that death usually ensued in the course of three or four hours.

The question will next arise, how does it happen that health, and even life, can be so immediately dependent as we find them to be on the elimination of so small a quantity of water as thirty-three ounces from the general surface of the body in the course of twenty-four hours? To this the author answers, that such elimination is important as securing the conditions which are necessary for the endosmotic transference between the arteries and veins of the fluids which minister to nutrition and vital endowment. It is admitted by physiologists that the blood, whilst still contained within its conducting channels, is inert with reference to the body, no particle of which it can either nourish or vivify until that portion of it which has been denominated the *plasma* has transuded from the vessels, and arrived in immediate contact with the particle that is to be nourished and vivified: but no physiologist has yet pointed out the efficient cause of these tendencies of the plasma, first, to transude through the wall of its efferent vessels, and, secondly, to find its way back again into the afferent conduits. The explanation given by the author is that, in consequence of the outgoing current of blood circulating over the entire superficies of the body perpetually losing a quantity of water, by the action of the sudoriparous glands, the blood in the returning channels has thereby become more dense and inspissated, and is brought into the condition for absorbing, by endosmosis, the fluid perpetually exuding from the arteries, which are constantly kept on the stretch by the injecting force of the heart.

In an appendix to the paper, the author points out a few of the practical applications of which the above-mentioned theory is susceptible. Interference with the function of the skin, and principally through the agency of cold, he observes, is the admitted cause of the greater number of acute diseases to which mankind, in the temperate regions of the globe, are subject. He who is said to have suffered a chill, has, in fact, suffered a derangement or suppression of the secreting action of the skin, a process which is altogether indispensable to the continuance of life; and a disturbance of the general health follows as a necessary consequence. Animals exposed to the continued action of a hot, dry atmosphere, die from exhaustion; but when subjected to the effects of a moist atmosphere, of a temperature not higher than their own, they perish much more speedily, being destroyed by the same cause as those which die from covering the body with an impervious glaze; for, in both cases, the conditions required for the access of oxidized, and the removal of deoxidized plasma, are wanting, and life necessarily ceases. The atmosphere of unhealthy tropical climates differs but little from a vapour bath at a temperature of between 80° and 90° F.; and the dew point in these countries, as, for example, on the western coast of Africa, never ranges lower than 3 or 4 degrees, nay, is sometimes only a single degree below the temperature of the air. Placed in an atmosphere so nearly saturated with water, and of such a temperature, man is on the verge of conditions that are incompatible with his existence; conditions which may be easily induced by exposure to fatigue in a humid atmosphere, under a burning sun, or other causes which excite the skin, while they prevent the exercise of its natural function. The terms miasma and malaria may, according to the author, be regarded as almost synonymous with air at a temperature of from 75° to 85° F., and nearly saturated with moisture.—*Proceedings of the Royal Society*, No. 56.

5. *On the import and office of the Lymphatic Vessels.* By ROBERT WILLIS, M. D.—That absorption is the especial office of the lymphatic vessels was, until very lately, a universally received doctrine in physiology: but it is now admitted that if they exercise this faculty, it can be only to an inconsiderable extent; and physiologists of high authority have even denied that they possess any absorbing power at all. This last is the opinion of Magendie, in which Dr. Willis concurs. So lately as 1841, Rudolph Wagner asserted that “neither anatomical or physiological considerations render any satisfactory account of the import and office of the lymphatics,” which, thus shorn of their ancient office, were repudiated as a superfluous apparatus in the animal mechanism. The grand organs of absorption Dr. Willis believes to be the veins; and a principal object of this paper is to point out the mode in which they acquire this remarkable faculty. The principal condition which this faculty of imbibition implies, is a difference of density between the contents of the vessels which are to absorb, and the contents of those which furnish the matter to be absorbed. If the several constituent materials of the body, both fluid and solid, were to remain in the same unaltered state, both chemically and physically, there could be no interchange among them: in order that mutual penetration may take place between two elements, the one must differ from the other: that which is designed to absorb must be, with relation to that which is to be absorbed, more dense; that is, must contain a smaller quantity of water in proportion to its solid ingredients. For the continuance of the delicate processes concerned in the access and removal of the nutrient fluids, it is necessary that a difference should be established between the arterial and the venous blood in respect to density. This purpose Dr. W. conceives is accomplished by the abstraction from the former of a portion of its water by the sudoriparous glands of the skin on the one hand, and by the lymphatic vessels on the other.

That the separation of the lymph from the blood is calculated to increase its density, is proved by its chemical analysis; lymph containing from 96 to 97 per cent. of water, and blood from 77 to 82 per cent. Dr. W. regards this separation of lymph from the blood as the result of a purely vital process of the same

nature as that by which the saliva and the watery portion of the urine are secreted from the circulating mass. He considers that his views are supported by the anatomical distribution of the lymphatic system: for on the principle that organs are found in the vicinity of the places where their office is wanted, the office of the lymphatics must be general, inasmuch as the system is general. These vessels may, in fact, be regarded as the essential element of an universally distributed gland. The mode in which the lymphatics are finally connected with the blood-vessels appears also to indicate that the object in view is to keep their watery fluid separate from the blood as long as possible; for, as is well known, they do not transfer their contents into the neighbouring veins, but pour their whole fluid into the superior vena cava at the moment it is about to enter into the heart.

The remarkable manner in which the lymphatic system is developed in some of the lower tribes of animals whose bodies are incased in an impervious covering, such as turtles, lizards and serpents, is adduced in farther consideration of Dr. W.'s views. He regards the serous membranes as contrivances for the accommodation of a great number of lymphatics; and the intimate connection which the function of these vessels has with the life and nutrition of internal organs, he thinks is shown by the remarkable amount of disturbance consequent on inflammation, or other morbid condition of serous membranes. Finally, Dr. W. adverts to the influence which the difference of endosmotic capability engendered by the abstraction of a certain amount of water in the course of the circulation (first between the blood corpuscles and the plasma in which they swim, and then between the liquor sanguinis and the containing channels) must have on the capillary circulation, which he conceives it is calculated to facilitate. *Proceedings of Royal Society*, March 16, 1843, No. 56.

6. *Mechanism of Digestion*.—In our preceding number, page 432, we gave an account of the interesting memoir of MM. Bouchardat and Sandras, on digestion, communicated to the French Academy of Sciences towards the conclusion of last year. On the 30th of January of the present year, a very interesting report was made to that learned body on the memoir in question, by a committee consisting of MM. Payen, Magendie, Flourens, Milne-Edwards and Dumas.

The chemical experiments of this committee have established a new and very remarkable fact, consisting in the action exerted by water, acidulated with muriatic acid, on fibrin, albumen, casein, gluten, and fibrous tissues. All these substances swell, become translucent, and some of them dissolve. The addition of six parts of acid to ten thousand of water, suffices to produce this reaction.

The authors have, however, gone too far in considering the muriatic acid as the only agent in the solution of azotised alimentary substances. In fact, while fibrin, under its influence, merely becomes excessively tumefied, the addition of a few drops of rennet suffices to dissolve it completely; consequently, muriatic acid is not the only solvent in the action of the gastric juice. We must also probably take into account the animal substance termed *pepsin*, detected in the stomach by MM. Schwann and Deschamps, and obtained in an isolated form by Wasmann.

It seems probable, according to the experiments of the authors of the memoir, that the neutral azotised animal substances, when dissolved in the stomach, pass directly into the veins.

Gluten is acted on in the same way. Starch and fecula are changed partially or entirely in the stomach, into lactic acid, and are absorbed in that state.

The fats evidently resist the action of the stomach. They pass into the intestinal canal. The committee regard the fats as the chief agent in the production of the chyle.—*Lond. and Edin. Month. Journ. Med. Sci.*, April, 1843.

7. *Worms in the Blood of a Dog*.—MM. GRUNY and DELAFOND exhibited to the French Academy of Sciences, January 30th, 1843, filiform worms which were found alive in great numbers in the blood of a dog. At the subsequent meeting (Feb. 6th), MM. G. and D. communicated the following details relative to the case.

The worms had been seen circulating in the blood of a dog. The body of the worm is transparent and colourless. The anterior extremity is obtuse, and the posterior, or caudal end, terminates in a very minute filament. At the anterior part, a minute short furrow could be observed, which was regarded as the mouth. The movements of these animals are very lively; and they lived so long as ten days after the blood in which they were contained had been drawn from the animal, and deposited in a vessel at a temperature of 15° Cent. On examining a drop of blood under the microscope, these hæmatozoa were seen swimming about with an undulatory movement among the blood globules, curving, twirling, and twisting themselves about with great vivacity. Blood taken from the coccygeal arteries, external jugular veins, capillaries of the conjunctiva, &c., contained them. During twenty days, the capillaries of different parts of the skin and mucous membrane of the mouth were opened, and the hæmatozoa were constantly found in the blood which flowed from these wounds.

The diameter of the blood-globules of the dog is from seven to eight millièmes of a millimetre; that of the worm from three to five millièmes. Its size is therefore no obstacle to its circulating everywhere with the blood.

Notwithstanding the innumerable quantity of these worms circulating in the blood of this animal, it seemed to enjoy excellent health. Twelve months ago MM. Gruby and Delafond examined the blood of from seventy to eighty dogs, without finding any worms; and since the discovery of them in the present case, they have been equally unsuccessful in fifteen others.—*Lond. and Edin. Month. Journ. Med. Sci.*, Ap. 1843.

8. *Structure of the Teeth*.—A report on Mr. A. NASMYTH's paper on this subject was read to the French Academy of Sciences, 5th December last, by M. Serres, in his own name, and in that of MM. Dutrochet and Flourens.

According to some authors, the teeth are composed of solid fibres, variously arranged, and according to others, of tubes. With the exception of Malpighi, most anatomists deny the existence of areolæ in the dental tissue, but both A. Nasmyth and Owen regard them as the specific character of this texture, and admit also the cellular arrangement in the enamel. Several preparations were presented to the commission by Mr. A. Nasmyth to prove this structure in the teeth. In examining these preparations by means of a microscope from 200 to 400 diameters, the areolæ were discovered in the ivory, and they were seen to be of different shapes and sizes according to the species of both examined, showing that this appearance could not be owing to any optical illusion. Mr. A. N. next enters into a consideration of the nature of the fibres of the teeth, whether they be tubular or solid. After mentioning the names of many authors who have espoused both sides of the question, he declares that the enamel contains no tubes, but the commission are of opinion that Mr. A. Nasmyth's preparations do not overturn the statements of Leeuwenhoek and other anatomists, who admit the existence of tubes. Mr. A. N. has, however, clearly demonstrated the cellular structure of the enamel, which has not been distinctly done since the time of Eustachius, in the sixteenth century. Before his investigations nothing was known of the formation of the solid part of the tooth, and he refuted the idea that the permanent teeth were produced from the roots of the milk ones. The different theories of the formation of the teeth are then touched upon, and Mr. A. Nasmyth tries to show that a similar organization exists in the enamel, ivory, and bulb. Having found the cellular structure in the two first, he was led to look for it in the third, and his attempts were successful. In his preparations it has not always the same appearance, being reticulated in some, and vesicular, or approaching it, in others. A like structure was found in preparations made by the reporters themselves.

To our knowledge, continued M. Serres, no one has ever produced a more perfect set of preparations than that which Mr. A. Nasmyth has laid before the commission; and in studying and comparing them with the drawings which have been published from the times of Malpighi and Leeuwenhoek, to those of Retzius and Owen, and also with those which we ourselves have presented to the

Academy, we are enabled to say, that they contain almost the whole microscopic history of the dental system of the mammiferæ from the pulp to that of the ivory and enamel.—*Lond. and Edin. Month. Journ. Med. Sci.*, Jan. 1843.

9. *Structure of the Uterus*.—M. JOBERT conceives that the peritoneum is united to the surface of the uterus by true muscular fibres; and that the uterus consists of a single muscle, whose fibres, arranged in super-imposed layers, run in the following directions:—

1. The superficial longitudinal fibres, which may be called *median*, as they occupy the central *raphé* of the body of the uterus, rarely exist on its anterior surface; they are constantly found on its posterior aspect, where they consist of two thin super-imposed layers, commencing at the fundus of the uterus, and running to the uterine extremity of the vagina, to which they are attached, with the exception of a few which terminate on the neck of the uterus above the opening of the vagina. They adhere on the one hand to the peritoneum, on the other to the oblique fibres.

2. The superficial fibres of the anterior wall of the uterus form a layer covered by the peritoneum and lying on the deep fibres; they are so disposed that they do not embrace the entire surface of the wall of the uterus which they concur in forming, but they cross, before they reach the round ligament of the opposite side. Some of its fibres enter into the composition of the round ligament, while others pass behind it and terminate on the sides of the organ where they decussate with those from the posterior surface.

3. The remaining superficial fibres appertain to the tubes and to the ligaments of the ovaries; they are only apparent during pregnancy. Some arise from the fundus of the uterus, adhere to those which belong to the tubes, and run to the anterior part of the ligament of the ovaries, being slightly twisted on themselves; others more numerous, at first divergent, arise from the posterior surface of the fundus of the uterus, and also run to the ligament of the ovary. Finally, some transverse fibres, arising from the posterior surface, constitute the inferior portion of the organ.

The neck of the uterus is composed of the same tissue as the body. The fibres composing it represent semicircles, and decussate without intermixing in the direction of the commissures. This semi-annular arrangement is more evident when the female has borne children, and when the orifice of the uterus is transverse. Are the fibres of the neck of the uterus confounded with those of the vagina? M. Jobert thinks they are.—*Lond. and Edin. Month. Journ. Med. Sci.*, April, 1843.

10. *Respiratory Capacity of the Lungs*.—M. BOURGERY read to the Academy of Sciences on the 23d January last, a memoir on the relations between the intimate structure and the functional capacity of the lungs in the two sexes and at different ages. By means of a hydro-pneumatic apparatus, the author has constructed a table of the numerical value of the respiration in seventy individuals—fifty males and twenty females—and the following are the results which he obtained:—

1. *Ceteris paribus*, the respiration is more energetic, the younger and thinner the subject. No other condition of strength or health is equivalent to the influence of youth.

2. At the same age, the volume of the respiration of the male doubles that of the female; this is a fundamental difference between the two sexes, and suffices to explain the superiority of the vital acts in the male.

3. The plenitude of respiration in both sexes occurs at the age of thirty, and corresponds to the complete development of the capillary air-vessels of the lungs. In a well-made man, aged thirty, the amount of a forced respiration is from 2.50 to 4.30 litres, and in the females from 1.10 to 2.20 litres. In a boy of fifteen, it is 2 litres; in a man, aged eighty, it is only 1.35 litres. Thus the respiratory power of a strong man at thirty represents that of

two feeble men,
 or two boys, aged fifteen,
 or two strong women,
 or four weak women,
 or four boys, aged seven,
 or four old men, aged eighty-five,

And the respiratory power of a strong woman, aged thirty, is equal to that of
 one feeble man,

or one boy, aged fifteen,
 or two feeble women,
 or two boys, aged seven,
 or two men, aged eighty-five.

4. The volume of air required by an individual in an *ordinary respiration* augments gradually with the age. The relations between the ages of seven, fifteen, twenty, and eighty, are geometrical, and represented by the numbers—one, two, four, eight. An adult man habitually respire four times as much as an infant, and twice as much as a female of fifteen. An old man respire twice as much as an adult. This progressive increase is the consequence of the diminution of the energy of the pulmonary sanguification—that is to say, this faculty diminishes from infancy to old age, in a ratio represented by fractional numbers, the inverse of those above given, $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}$.

5. During a forced respiration, the aerial capacity of the lungs, or their permeability to air, presents two periods,—the one ascending from infancy to thirty years,—the other descending from thirty years to old age. The first augments in a regular relation of one, two, three, from seven to fifteen and thirty years; the second diminishes from three to two and a half from thirty to fifty years, and from two and a half to one and a half from fifty to eighty years.

In youth, the respiration is tripled in twenty-three years, and augments one-ninth in each year. From the adult age it diminishes in twenty years two-fifths, or one-hundredth in a year. From fifty to sixty it diminishes but one-fifth in ten years, or one-fiftieth in each year. From sixty to eighty it falls almost one-half more, or one-twentieth in each year.

6. Thus the respiration at any given age may be more or less developed in any subject compared with another, but the rate of diminution is constant in all, and in a nearly equal proportion. The diminution of the respiratory faculty must play a considerable part in the gradual extinction of the vital forces as age advances.

7. In proof of this last proposition, the relation of a forced and ordinary respiration diminishes with the age. It is as one to twelve, at three years of age, as one to ten at fifteen years, as one to nine at twenty years, as one to six at twenty-five and thirty years, as one to three at sixty years, as one to one-half or one-third at eighty years; whence it follows that in youth there is an immense respiratory power in reserve for any violent exertion; while in old age the subject is at once out of breath.

The respiratory faculty is impaired by the capillary rupture of the aerial and sanguiferous canals, improperly called emphysema of the lung. This rupture accompanies more or less, but inevitably, every great respiratory effort. Though it appears to be a senile earring of the lung, it nevertheless commences in infancy, and gradually augments with the age, from the mere reiteration of the function of respiration. All the diseases of the lung, however temporary, hasten this species of disorganization.

The ultimate result of senile emphysema, uncomplicated with any other disease, is to assimilate the cavernous lung, and imperfectly sanguifying respiration of old age to the locular lung and incomplete respiration of the reptile.

As disease, like old age, causes an augmentation of ordinary, and a diminution of forced respiration, this difference affords a new means of diagnosing pulmonary affections.—*Lond. and Edin. Med. Journ. Med. Sci.*, April, 1843.

11. On Menstruation.—M. RACIBORSKI, in a letter to the French Academy of

Medicine, details the results of his researches on menstruation, of which the following are the most important.

1. There exists the most intimate connection between the Graafian vesicles and menstruation. When these vesicles arrive at their full development menstruation commences, and when they are destroyed menstruation ceases.

2. At each menstrual period a follicle projects like a nipple on the surface of the ovary, where it afterwards bursts, without requiring for that purpose an erotic excitation.

3. The rupture of the follicles in general appears to take place just at the period when the menstrual discharge is stopping.

4. The ovaries do not act alternately, as has been affirmed; they do not seem to be under any fixed law as to this.—*Edin. Med. and Surg. Journ.*, April, 1843, from *Bull. de l'Acad.*, Jan. 1843.

12. *Chemical Theory of Nutrition.* By MM. DUMAS and CAHOURS.—For a considerable period chemists have noticed in animals the existence of three neutral azotized principles, remarkable, either on account of the number of properties which are common to all, or on account of their abundance in the fluids or solids of the animal economy, or by their presence in all the essential ingredients of our food. These matters are albumen, fibrin, and casein. The albumen existing in the white of the egg, the fibrin forming the coagulable portion of the blood, the casein constituting the animal part of milk. In a physiologico-chemical essay, read to the Academy of Sciences about eighteen months ago, by MM. Boussingault and Dumas, it was endeavoured to be proved that albumen, casein, and fibrin existed in plants; that these matters passed ready formed in the bodies of the herbivorous animals, from whence they were transferred into those of the carnivora; that plants alone possess the power of forming these three products, which animals separate either for the purpose of assimilating to their own bodies, or to destroy them, according as the wants of their system demand. MM. Dumas and Cahours, in the present memoir, have extended these principles to the formation of the fatty matters, which, they state, take their origin in plants, but in animals undergo a species of combustion, or remain as transitory parts of the body. They have also urged the necessity of grouping together all the organic bodies which possess the property of passing into the state of lactic acid during fermentation, and which, as sugar and starch, form an essential ingredient in the food of man and the lower animals, and are only produced in plants by the powers of vegetation.

The details of these views, and the conclusions drawn from them, may be thus shortly stated.

The vegetable kingdom produces or forms the neutral azotized principles, the fatty matters, sugar, starch, and gum; the animal kingdom, on the other hand, consumes these. The first decomposes the carbonic acid, water, and ammoniacal salts formed by the second; which in its turn absorbs oxygen for the disengagement of these. The animal produces or gives out heat and electricity; the vegetable, on the other hand, absorbs them. The vegetable is a decomposing apparatus which forms new products, and is fixed in one spot; the animal is an oxidizing apparatus, endowed with locomotive powers.

"If, as we hope," continues MM. Dumas and Cahours, "physiologists recognise with us that plants are destined to create albumen, fibrin, casein, but that animals only modify these matters, assimilate them, or destroy them, but cannot create them, we shall esteem ourselves happy, after having been the first to publish such opinions, to be also the first to furnish to science the rigorous analysis of these substances, so often studied for some years past. To avoid confusion, however, it ought to be stated, that, in so far as albumen is concerned, this opinion was previously announced by MM. Prevost and Le Royer, in their *Memoir on Digestion*; but it ought also to be stated that they did not adduce sufficient proofs to convince physiologists. More lately the same opinion was entertained by Mulder, who, reasoning simply on the identity of composition, which he established to exist between vegetable and animal albumen, did not

hesitate to conclude that the albumen of the herbivorous animals was procured from the vegetable which served them as nourishment.

"A granivorous bird finds in grain all the elements necessary for its nutrition. A dog finds in bread the matters which its organization requires for the purpose of life and of growth. A cow which is giving milk not only finds in barley and oats the matters requisite for its own existence, but also the substance by means of which the casein is formed, which is found in its milk. The cerealia ought, therefore, independent of the amylaceous or sugary matters they contain, to furnish to the animal organization the neutral azotized substances which every animal body consists of, and which we have seen that the animal body cannot create. The analysis of corn, or the flour formed of it, is quite conclusive on this point. If we take some flour, and after forming it into a consistent paste, wash it slowly under a fine stream of water, there remains in the hand a grayish-coloured tough elastic paste, of a faint odour, which constitutes the gluten of the old chemists. The turbid water which ran off carried with it the fecula, a few flakes of gluten, and all the soluble matters. But if this liquid is left in repose, and be decanted, so as to procure it free of the fecula which is deposited, it is only necessary to boil it to recognize in it the presence of albumen. On the other hand, if we take the gluten, as it remained in the hand after the washing, four distinct substances, at least, may be recognized in it. In fact, if we boil this substance first with absolute alcohol, and then in proof spirit, we obtain a fibrous, grayish-coloured residue, which may be named vegetable fibrin. The alcoholic liquors allowed to cool furnish a substance possessing those properties which we assign to ordinary casein. If the alcoholic liquors are then concentrated and allowed to cool, pultaceous substance is formed, which presents all the characters of albuminous matters, but which, on account of some special properties, deserves more particularly the name of gluten. Along with this gluten is deposited a fatty matter, which is easily removed by means of ether, and which does not differ from the ordinary oils or fats, or rather from butter, which it resembles in its point of fusion.

"The analysis of the flour of the cerealia thus enables us to ascertain the presence of, 1. albumen; 2. fibrine; 3. casein; 4. gluten; 5. fatty matters; 6. fecula, dextrin, and glucose.

"We therefore regard it as proved that the food of animals includes the first four of these substances, that is to say, the azotized substances, or at least some of them. We admit that in those cases where the fecula, dextrin, and sugar disappear from the food, they are replaced by fatty matters, as we see occurs in the food of the carnivorous animals. In fine, we see that the association of neutral azotized principles with fatty, sugary, or starchy principles, constitutes the almost entire food of all herbivorous animals.

"Does it not follow from this that there are two fundamental principles in nutrition, viz. 1. That neutral azotized and organized matters are indispensable as articles of food in the nutrition of animals; and 2. That animals can, to a certain extent, subsist without taking fatty matters, or without taking starchy or saccharine principles, provided that in the one case the fatty matters shall be replaced by a proportional quantity of starch or sugar, or in the other by fatty substances?

"The indispensable necessity which all animals are under to take with their food those neutral azotized principles which exist in their organization, almost of itself demonstrates that they are incapable of creating these substances. But to render this fully apparent, it is only necessary to follow these neutral azotized principles when introduced into the stomach, and see what is their final destination. It is tolerably easy to prove that these substances are found essentially represented by the urea, which, in man and the higher animals, constitutes the essential principle of the urine, and by the uric acids in birds and reptiles, a substance which takes the place of the urea in them. Without counting the excrements, an adult man absorbs daily a quantity of neutral azotized matter capable of representing about four drachms of azote, a quantity which is found entire in

the eight drachms of urea, which are passed with the urine voided during the twenty-four hours.

"Leaving out of question all those phenomena which pass in the interior of the organs, and considering only the balance of the ingesta and egesta, we find that a man gives out in urea nearly all the azote which he took in under the form of a neutral matter. Is it not, therefore, reasonable to conclude, that the neutral azotized matters of our food serve to procure this urea, and that the whole industry of the animal organism is limited either to the assimilation of this azotized matter, when the wants of the system require it, or to convert it into urea?"—*Ibid.* from *Comptes Rendus de l'Acad. des Sci.*, Nov. 28, 1842.

13. *Urea in healthy Blood.*—M. FRANZ SIMON has always been able to detect the presence of urea in the blood of patients labouring under Bright's disease. To exhibit this principle two or three ounces of blood are precipitated by means of alcohol, and when the liquid is filtered, the filtered fluid is evaporated in the vapour bath to the consistence of a syrup. Fresh alcohol is poured on this, the clear liquor removed, evaporated, and the process again repeated, till the anhydrous extract dissolves completely in alcohol without leaving any residue. It is then evaporated to dryness, dissolved in distilled water, filtered to remove the fat, and evaporated to the consistence of a syrup. A little is then put on glass, a drop of cold nitric acid added, and it is allowed to rest till a saline crust forms. When this crust is examined by means of a microscope, the rhomboidal tabular crystals, of which the nitrate of urea is composed, are easily recognized.

By this means M. Simon has not only detected the presence of urea in the blood of cholera patients, but found also that it exists in all healthy blood; but in the healthy blood it exists in very small quantity.—*Ibid.* from *Annales des Sci. Nat.*, Dec. 1842.

MATERIA MEDICA AND PHARMACY.

14. *Ferruginated Pill of Mercury.* By G. F. COLLIER, M. D.—The varying and unsatisfactory quality of our "blue-pill" has for many years attracted attention. In my second edition of the "London Pharmacopœia" I gave the outline of a formula for preparing it with sesquioxide of iron; the further experience of years enables me to offer this preparation to the profession as a boon to them and to the public, for it may be proved that the iron enters along with the mercury into the blood, and saves the wear and tear of the human body under its use. I will not, at this time canvass, because I doubt, the probability of the sesquioxide (in double equivalents) yielding up one atom of its oxygen to the mercury, as is the opinion of several chemists to whom I have submitted this compound. I am aware that other peroxides, when moist, will similarly combine and divide mercurial globules; and I will not now enter upon the series of incomplete experiments instituted by myself to prove that mercury will amalgamate with other metallic oxides, and in this state form double or triple salts with acids. I shall now keep only to the practical utility of my compound, and to its importance as a great remedial improvement.

In the spirit of a pharmaceutical chemist I should either exclusively manufacture and sell it over my own counter, or I should take out a patent for it; in that of a manufacturing chemist I should do the like, or keep it a secret and save a fortune by it; were I of the new school of "summi auctores" I should throw the mere shadow of it, chemical, mesmeric, magnetical, and homœopathical, into a modest pamphlet, proving that the era of medicine truly commenced in 1843, and that up to that time all were shadows, clouds, and darkness. I shall content myself with publishing the recipe, and recording a brief statement of my experience.

R.—Ferri sesquioxidi, ʒi;
Hydrargyri, ʒij;
Confect. rosæ Gallicæ, ʒiij. Contere donec globuli non
amplius conspiciantur.

It is made in five minutes; common blue-pill demands a week. The globules are not visible, even by the microscope. It is uniform in its appearance and effects. It makes a smoother pill, retaining its form more permanently. It salivates in a few days in the usual doses. The presence of the iron prevents the wear and tear of the human body under the effects of the mercury. It is particularly eligible for the strumous, the irritable, and for reduced anæmic constitutions requiring mercury. The powers of life are not so much (scarcely at all) prostrated under its use. Its resolvent power is greater than that of mercury alone, especially with respect to buboes. Practitioners will at all events know what they are using; at present they have for blue-pill all manner of alloys and sulphurets,—mercurial-zinc pill, mercurial-sulphur pill, &c. &c. &c.

Five grains of sesquioxide will suffice to amalgamate and divide a large quantity of mercury, but I propose the larger proportion as a remedy.—*Lancet*, March 11, 1843.

15. *Cannabis Indica*.—The No. of the *Provincial Medical Journal*, for March 18th, 1843, contains an interesting paper on this article, read before the Royal Medico-Botanical Society by W. LEY, Esq. "The hemp plant, *Cannabis Sativa*," the author observes, "is well known; it is supposed to be a native of Persia; it grows wild on the mountains of Asia, but is not confined to them. When cultivated for its fibre it is sown so closely that it spends itself in long shoots. When a single plant is grown it shoots out its branches close to the soil luxuriantly, and attains a height of four, five, or six feet. The leaf resembles that of the common nettle. It exhales a powerful narcotic odour, and the branches are glutinous to the touch, with a resinous secretion. For medicinal purposes the garden hemp is used. In the East the plants are directed to be set at least nine feet apart, to allow them the full benefit of heat, light, and air. When the seed is formed, the plant is in the greatest perfection. The resinous exudation of the leaves is then collected and sold as churrus; or the shoots, from which the resin has not been collected, are cut and dried, and sold as gunjah.

"In England it has been used medicinally, but its use is quite forgotten. In an old act of Henry the Eighth, which is still in force, hemp is forbidden to be soaked in ponds or running streams where cattle drink. The seeds are mentioned by old medical writers. By modern writers it is treated as having no effect; yet botanists speak of it as a violent poison, and of the water in which it has been soaked, producing its effects almost as soon as drunk. Herodotus, speaking of the customs of the Scythians, says they have among them a species of hemp, resembling flax, except that it is both larger and thicker; of this the Thracians make themselves garments. The Scythians take the seed of this hemp and throw it upon red hot stones; immediately a perfumed vapour ascends stronger than from any Grecian stove. This is to them in the place of a bath, and it excites from them cries of exultation. Hemp seeds are also mentioned by Galen as promoters of hilarity and enjoyment. These properties are forgotten among us, if they really exist; yet throughout the East the resin of the plant maintains a very high credit. It is of the resin that this paper treats.

"It is noticed by many Arabian, Persian, and Sanscrit writers, and is in popular use as an intoxicating agent from the furthest confines of India to Algiers. When the dry leaves are mixed with tobacco, and smoked, 'intoxication ensues almost instantly, with heaviness, laziness, and agreeable reveries; but the person can be readily roused, and is able to discharge routine occupations.' If the resin be swallowed, almost invariably the inebriation is of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyment. The intoxication lasts about three hours, when sleep supervenes. No nausea or sickness of the stomach succeeds, nor are the bowels at all affected; next day there is slight giddiness and much vascularity

of the eyes, but no other symptom worth recording. These effects are produced on carnivorous animals generally; but on graminivorous they are *less* marked. In the colder climate of this country the effects are much modified. I fear, too, that a vegetable production sent to this country from Calcutta, and not immediately used, has been deteriorated by age. The stimulating effect has been very much less marked; the few persons who have felt the dreamy exhilaration have made no outward manifestation of it. The dose to produce stupor must be much larger. The appearance of catalepsy, which was occasionally produced in India, has not been produced here. The subsequent effects are depression of spirits and relaxation of the muscles in a remarkable degree; yet the litherness attending that relaxation, the free perspiration on the skin, and the increase of appetite, have made some old rheumatic persons speak of it as of the elasticity of youth. Most frequently the depressing effects cause a great disinclination in the patient to continue its use. The remedy was introduced to our notice by Dr. O'Shaughnessy.

"The hemp resin has no taste, and little smell. In the East it is stimulating to intoxication, and to aphrodisia; it raises the pulse, excites warmth, makes the breathing more slow, does *not* check secretion; it allays irritation and pain, but less generally than opium; it causes general depression, sleep, relaxation of the muscles in a remarkable degree. The patient lies in one position, indisposed to move; the face loses its expression, the jaw falls, there is difficulty of breathing; it is as though the air was drawn through cotton, it feels dry; the expectoration and perspiration are increased; the bowels are not affected except there may be an unpleasant feeling of heat—a forcing of the sphincter ani, as if it could not retain the contents of the rectum; yet with evacuation—which is in such case particularly easy—or no evacuation, the forcing continues. These symptoms will continue while the muscular relaxation lasts. Sleep, or rather repose, would continue during the whole time unless the avocations of the day or mental activity forbid it; no unpleasant feelings succeed, and the appetite improves.

"Opium is *useful* to increase the heat of the surfaces, to restrain over-secretion, to diminish pain and irritation; but it is in spasmodic and convulsive diseases that opium is most evidently useful. In tetanus it has occasionally succeeded when given in very large doses. In hydrophobia 180 grains have been given in the space of twelve hours *without* apparent effect.

"The amount of benefit we may derive from the hemp, when experience has more fully proved its efficacy, is yet to be seen. In cholera it has allayed sickness, cramp, and purging; it produced rapidly an improved condition of skin in warmth and perspiration; it raised the pulse. In rheumatism it relieved the pain and swelling more quickly and satisfactorily than I have seen by any other medicine. In spasmodic and convulsive diseases hemp is most eminently useful. In tetanus it has been the means of cure in the majority of cases, both in men and in horses. It has relieved hydrophobia of much of its horror, but did not avert the fatal termination. In common with opium it is useful in chorea, spasmodic asthma, delirium tremens; and I believe that whenever opium is useful hemp also will show that it has some power. Time must draw a more perfect comparison.

"In dangerous doses the effects of opium are—increasing stupor, loss of motion, and of sensibility, respiration slow, muscles relaxed, pupils contracted. The progress of the poison is marked by the increasing relaxation of the muscles, and the falling of the features from that cause, until the depression of death arrests progress. In dangerous doses the effects of hemp are not known, because the largest doses have not proved dangerous; in this is its great superiority over opium. When opium begins to kill, hemp exerts a beneficial influence. The stupor, loss of motion and sensibility, slow respiration, relaxed muscle, fallen feature, when produced by hemp are not the prognostications of death; by their agency we promote cure. The falling*⁺jaw and relaxed features, so fatal as the effect of opium, may be in hemp the result of a moderate dose; it is by sustaining these relaxing doses that an absorbent effect is attained. By this influence we relieve muscular spasm with greater mildness and more certainty; under it we

produce absorption from bursæ, from the sheaths of tendons, and from the joints. It is no slight thing to say of a new remedy that it will in any degree bear comparison with opium. It is a triumph in therapeutics to establish, as I do not doubt we shall be able, that this new remedy will effect by moderate doses, and safely, what our heretofore strongest power could only attempt with danger—that, going further, this acquisition will prove itself a direct antidote—the first of its class—to strychnine, one of the most violent poisons nature affords. This language may be strong; but, being founded on evidence, is not too strong, until it is contradicted by further investigation. To promote that, Dr. O'Shaughnessy has brought with him to this country a considerable quantity of the dried plant. He has placed it in the hands of Mr. Squire, to be by him prepared; it will there be within the reach of all, and, allowance being made for the age and voyage, his name is an assurance that the preparation he makes will be as good as any pharmacist in this country could supply. The question of the effects of the plant grown in this country is still to be tried; the experiments hitherto made are inconclusive. In any experiment that may be made it must be borne in mind that the water in which hemp is steeped has the credit of being a poison in this country, and in India also.

“The introduction of the plant into use as an intoxicating agent, in the East, would appear to contradict this opinion. The fresh leaves were eaten; and subsequently a beverage having the emerald green colour of the leaf was a favourite mode of imbibing its virtues.”

16. *Medicinal Properties of Indian Hemp.*—A paper on this subject was read before the Royal Med. Chirurg. Soc. on the 9th of May last, by JOHN CLENDINING, M. D.

The author commenced his paper with general observations on the importance of narcotics, but especially of opium, in the treatment of disease. After having referred to numerous examples of the successful use of opium in acute and chronic disease, he adverted to the inconvenience occasionally attending the employment of opiates, especially to the derangement of the stomach and bowels and kidneys, and the vertiginous and other painful conditions of the nervous system they so frequently produce. He then stated that, in his experience, those inconvenient effects had occurred so frequently, and been found in many cases so difficult to obviate, without the abandonment of the use of a class of remedies of the utmost importance in a large number and variety of diseases, that he had been recently induced to make trial of the extract of hemp, recommended by Dr. O'Shaughnessy, of Calcutta, as a substitute for opium in numerous instances. The author's object in making this communication was to bring under the notice of the society the results he had obtained, as in his judgment important to be made generally known, with a view to further and more extended trials by other practitioners, more especially at this moment, when there was some prospect of a new edition of the London Pharmacopœia, upon which he understood a committee of the Royal College was actually engaged.

The author then gave details of eighteen cases, from a much larger number, in which he had given trial to the new remedy with satisfactory results.

These trials included cases of acute and chronic disease, in persons of both sexes, and persons of very various ages. The number of cases detailed, although necessary to substantiate the claims advanced by the author in favour of the new narcotic, was yet such as to preclude any analysis of them in this place.

It will be sufficient to say generally, that the indications for its use in these cases appear to have been more especially to relieve neuralgic pain; to relieve irritation and spasms of chronic bronchitis, of rheumatism, &c.; and to subdue sleeplessness or disturbed rest from whatever cause, if not arising from inflammation in the head. The author found the remedy highly useful in checking cough in phthisis, and cramp and irritation in the limbs, &c., in rheumatism, without any interference with the digestive processes, or intestinal action or secretions, yet with an anodyne and hypnotic effect not less uniform than that of opium. He gave it trial also in several cases of low fever, characterized by

spots, tremors, and delirious restlessness, and with very good effect; it repressed delirium and conciliated repose, and thus secured that tranquillity and refreshment, the proper effects of sleep. He reported, also, some instances of successful use of hemp extract, as a pure anodyne, to secure sleep, by suppressing pain, arising in one case from a cut, in another from a violent purgative, and in a third from rheumatic irritation of the meninges.

The author concluded his paper by a *resumé* of the objects of his trials, and the results and conclusions he had attained.

He stated that his experience had satisfied him that the hemp extract was possessed of medicinal properties sufficiently energetic and uniform to entitle it to admission into our national pharmacopœia amongst our most useful narcotics; and that as a substitute for opium, especially in cases for which that drug was unsuited, owing to idiosyncrasy, or to the presence of active indigestion, or the nervous temperament, he had found reason to place much confidence in the extract, and to regard it as a remedy exceeding in value that of any other narcotic, or combination of narcotics, with which he was acquainted.—*Prov. Med. Journ.* 27th May, 1843.

17. *Remarks on the Pathogenic Action of the Ioduret of Potassium.* By M. RICORD.—The extraordinary results obtained by the use of the ioduret of potassium in the treatment of syphilis, and the general employment of this remedy by the great proportion of physicians who attend specially to venereal diseases, have induced me to point out some of those effects produced by it, which may become causes of error in the course of the treatment, or constitute real complications, which may modify or arrest the cure.

I have already made known the circumstances in which the ioduret of potassium ought to be employed—that is to say, at what period of the syphilitic disease it is most likely to be serviceable, and of which it is in a sort the specific. I have also stated the doses and pharmaceutical preparations to which the preference should be given. In order to complete the history of this powerful therapeutic agent, I am now about to speak of its pathogenic action. In the first place, let me say that the ioduret of potassium has a very marked action on the secretions in general, which it excites and increases greatly. Its effects on the skin, mucous membranes, and kidneys, are very remarkable; the circulation and the blood itself are sometimes influenced by it, as also the nervous and the muscular systems; but there exists in the production of these phenomena a certain order of frequency, in accordance with which we shall now study them. At the same time, I must observe that, although what I am about to advance is drawn from a great number of observations, I yet give it with a certain degree of reserve, expecting from time, and the experience of other practitioners, either the confirmation of my remarks, or, on the other hand, advantageous modifications thereof.

Action on the Skin.—The skin is incontestably one of the tissues the most easily influenced by the ioduret of potassium. Nothing is more common, in fact, than to see patients under its influence affected with different eruptions, and more especially with eruptions of the psyracious form, somewhat resembling the pustules of acne, with this difference, that they are not confined to the parts habitually affected with acne; thus they are found not only on the face and shoulders, but on every part of the body without exception.

There is scarcely any form of acute eruption of the skin which the ioduret of potassium cannot induce, according to the predisposition of the patient. In the one case we may have an eczema, in the other herpes, while in others it may cause simple erythema. I have recently had under my care at the hospital two patients, in whom, at two different periods, there appeared an eruption of papulous erythema on some parts, of erythema nodosum on others, and, in a patient affected with cancer of the face, to whom the ioduret of potassium was given in rather large doses, it on several occasions caused an eruption of impetigo on the hairy scalp, and of a rupia, offering the characters of a cachectic rupia, on the legs and forearms—symptoms which disappeared as soon as the remedy was omitted, and showed themselves again when its use was resumed.

I have seen the ioduret of potassium several times give rise to a genuine purpura hæmorrhagica. I have seen it produce on three several occasions, after a fortnight's use, a genuine spotted disease on the legs of a gentleman, for whom I prescribed it; and in the case of a lady, for whom, with the sanction of Professor Cruveilhier, I ordered it, for the removal of very serious tertiary symptoms of syphilis, it caused, towards the termination of the cure, a petechial eruption on the lower limbs, unattended, however, with danger. Some patients have experienced only a feeling of heat and pricking of the skin, attended at times with more or less pruritus. The importance of knowing these different effects of the ioduret of potassium on the skin will be readily acknowledged, in order that they may not be confounded with the symptoms for the removal of which the remedy is given, and especially in order that it may be abandoned at once in those who have analogous diseases, or such predisposition that the ioduret of potassium may either exasperate or develop these affections.

Action on the Digestive Functions.—I have ascertained, and the greater number of those who have experimented with the ioduret of potassium agree with me on this point, that the functions of the digestive apparatus are increased in activity, and are better performed; the individuals get an appetite, and *embonpoint* is an ordinary consequence of its use.

Nevertheless, there are circumstances in which this medicine may produce injurious effects on the digestive canal. One of the most remarkable and most constant is a pain situated in the great cul-de-sac of the stomach, and which, by the manner in which the patients complain of it, might be mistaken at first for pleurodynia of the left hypochondrium. This pain may be sometimes very severe, without there being any increase of thirst, disorder of the appetite, coating of the tongue, or any reaction of the circulation. Pressure does not increase the pain; the function of digestion has not any influence on it; it seems to be due entirely to a gastralgia. In some persons the appetite, which at first is increased solely to a satisfactory condition, becomes excessive, exaggerated, and absolutely morbid. We have had patients in the hospital that double rations did not satisfy. In a few cases the use of the ioduret of potassium is followed by phlegmasia either of the stomach alone, or of the entire intestinal canal, attended with vomiting and diarrhœa, and, in fact, all the phenomena of poisoning. Nevertheless, the most frequent result of the action of this agent on the intestinal mucous membrane is the production of a sero-mucous flux, and we shall find that it has an analogous effect on the other mucous membranes.

Ptyalism.—While speaking of the pathogenic action of the ioduret of potassium on the alimentary canal, I must mention a phenomenon I have often met with—I mean a peculiar salivation caused by this medicine. In many persons it causes a real ptyalism, which may be as great and as severe as the most marked mercurial ptyalism. It is important to be aware of this peculiar phenomenon, in order that it may not be confounded with an analogous one caused by mercury, especially in those cases where the two remedies are administered conjointly. It will be sufficient to point out the characters proper to the ptyalism from iodine, without mentioning those caused by mercury, in order that they may be distinguished from each other.

The salivation to which the ioduret of potassium gives rise very much resembles that of pregnant women. In these cases the saliva has very little viscosity; it seems to come not only from the cavity of the mouth, but to be also the product of a kind of regurgitation. The mucous membrane of the mouth may be rather irritated, and œdematous, but there are not any signs of inflammation, as in mercurial stomatitis, nor is there observed any tendency to the ulceration peculiar to the latter. In the majority of cases even it is impossible to discover any appreciable alteration of tissue. The salivary glands are not the seat of any tumefaction, nor is there any peculiar odor from the breath. The patients complain that the saliva has a saltish taste, resembling that of the ioduret of potassium.

Action on the Kidneys.—The secretion of urine is often increased by the ioduret of potassium, the augmentation under certain circumstances constituting a true

pathological condition; I have had a patient in the venereal hospital affected with diuresis from the use of this remedy. Each time it was administered, the emission of urine was materially increased; the patient has passed from forty to fifty quarts in the course of the twenty-four hours, drinking in the same proportion. Each time that the ioduret of potassium was suspended, this accidental supersecretion ceased, but it was reproduced as soon as its use was resumed. In this case, as in those where the urinary secretion was infinitely less, and in those where it was not in the least augmented, it did not present any notable change, with the exception that it was found to contain the ioduret of potassium.

Action on the Circulation.—The circulatory action has not appeared to be sensibly influenced by the ioduret of potassium; in general the pulse has been neither accelerated nor rendered slower. Under some circumstances we have had reason to believe in a peculiar action on the circulation, because certain persons who laboured under febrile excitement previous to the administration of the remedy, have had the febrile symptoms lessened or removed while it was used; in these cases I believe the modification of the circulation was not caused by the ioduret of potassium, but depended solely on the removal of the cause, of which the fever was only a symptom. In some persons, however, as a rare exception to the rule I have just laid down, the circulation has been increased in activity; but here again it is less by the direct action of the medicine on the circulation, than by the irritation it has produced in the alimentary canal, whether it has originated a gastro-enteritis, or that it has been given to persons whose digestive apparatus was already in a disordered condition.

While noticing the action of the ioduret of potassium on the blood itself, it has appeared to us, as was mentioned when speaking of its effects on the skin, that it renders the blood less plastic, and thus gives rise to hemorrhages.

We have seen nasal and pulmonary hemorrhages, and even sometimes hemorrhage from the intestines, during the administration of the ioduret of potassium in persons whose blood was already impoverished, either from chlorosis, scurvy, or scrofula, or from an old taint of syphilis in the constitution which has injured it seriously.

Action on the Conjunctiva.—Following the phenomena just mentioned is one which is often met with, and which may cause much alarm to those medical men who are not in the habit of using the remedy in question. This phenomenon is its action on the conjunctiva.

The conjunctiva may be affected alone, or else together with the mucous membrane of the nasal fossæ or of the bronchia. The conjunctiva of one or both eyes is often seen to be affected in persons who are under the influence of the ioduret of potassium. This attack commences by a more or less general and more or less rapid vascular injection, to which is speedily added a tumefaction of the mucous membrane, and an infiltration, generally well marked, of the sub-mucous cellular tissue, which give rise to considerable chemosis of the eye and œdema of the eyelids. The species of ophthalmia, which may be named the *catarrho-œdematous*, presents the peculiar indication of the general effects of the ioduret of potassium on the mucous membranes—that is to say, the secretion is increased without any tendency, or very little, to suppuration. It has appeared to me, that in the great majority of cases these symptoms showed themselves when the use of the remedy was commenced, rather than when it had been administered a long while. I may add, that when it has once occurred, it is rare to see it attack the party a second or third time. It is very important to be aware of this effect of the ioduret of potassium on the eyes, because the peculiar ophthalmia it causes may be mistaken for a symptom of syphilis, more especially for gonorrhœal ophthalmia, with which it has some analogy.

Action on the Respiration.—I have noticed under certain circumstances some very remarkable effects of the ioduret of potassium on the respiratory apparatus.

In a certain number of individuals from the first week of medication, and in others only after a much longer period, a peculiar coryza is noticed, which may be mistaken for a simple coryza, or for an exacerbation of the syphilitic symptoms affecting the nasal fossæ. In the particular cases of the action of the

ioduret of potassium on the Schneiderian membrane, there happen the symptoms of the simple coryza, the mucous secretion being considerably increased, but with this peculiarity, that the discharge has much less viscosity, and has not any tendency to pass to suppuration. This rheum caused by the ioduret, to use a common expression, does not ripen, and even if, previously to the use of the remedy, there existed a purulent secretion from the nasal fossæ, unless it depended on caries of the bones, it will soon diminish under its influence, and sometimes disappear.

Action on the Bronchia.—In some cases, but not so numerous as the preceding, the effects just described as occurring on the pituitary membrane, take place with the bronchial. The symptoms of a peculiar kind of bronchitis then show themselves; the cough is very slight, and there is rarely present symptomatic fever, but the patients generally experience a well marked difficulty of breathing, and bring up a large quantity of expectoration, similar to that observed in the first period of simple bronchitis. There is also this particular attendant circumstance, that the expectoration ceases as it began—that is to say, without passing to the purulent state. The stethoscopic phenomena, and those furnished by percussion, are the same, or nearly so, as in simple bronchitis.

Action on the Nervous System.—A less frequent effect, but still one requiring to be noticed, as occurring among persons to whom the ioduret of potassium has been administered, is a degree of cerebral excitement which has occasionally shown itself; symptoms of slight congestion, which have given rise to a condition analogous to that of the intoxication produced by alcoholic drinks. It has been already noticed by authors, and has received the name of the iodic intoxication. In these cases, we have also observed in some patients, a certain influence of the medicine on the agents of locomotion; some have been affected with spasms, and even a degree of subsultus tendinum. Dr. Guillon told me that a professional friend of his thought he had observed a double anæsthesia in a man while under the influence of the ioduret of potassium. The man's wife was similarly affected. Statements of this kind, however, require a severe analysis before they are received.

Action on the Genito-urinary Organs.—The action of the ioduret of potassium, it has appeared to me, is also directed upon the mucous membrane of the urethra. I have, in some cases, had reason to attribute to this medicine the return of ill-cured gonorrhœas, or the exasperation of one already existing, so much so that if a patient be labouring under blennorrhagia, more especially if it be at all approaching the acute state, I consider it a counter-indication to the use of the remedy. Still there may be certain cases of blennorrhœa in which advantage may be derived from the use of the ioduret of potassium.

The remarks that have just been made respecting the action of this remedy on the urethra are equally applicable to the mucous membrane of the vagina and uterus. In some patients, labouring under uterine or utero-vaginal catarrh, and treated with the ioduret of potassium, I have seen the morbid secretion very considerably increased; it follows, therefore, that the existence of an acute utero-vaginal catarrh, or of one approaching the acute state, equally constitutes a counter-indication to its use.

If I were now to state the proportion in which the various maladies of which I have spoken occur, relative to the number of patients to whom I have administered this potent therapeutic agent, I should say that it is certainly a very small one; and I may add, that hundreds of patients take the ioduret, and are successfully treated by its use, without the occurrence of any of the pathological conditions I have described. I should also mention that there is not one of these maladies, even of those the most severe in appearance, which continues more than a week after the suspension of the medicine, or the modification of the dose. I have, hitherto, only met with five or six patients with whom I have been obliged, ultimately, to relinquish the medicine, on account of the constant pathogenic effects which it produces; in a great many, however, I have been induced to modify the doses, or to suspend the use of the medicine for a time, on account of the occurrence of the effects to which I have just drawn the attention

of practitioners, and which, like those caused by mercury, ought to serve as guides. In the employment of the ioduret of potassium we should adopt this common principle—to give the medicine in doses sufficient to modify and cure the complaint, without producing any of the annoying effects previously mentioned.

Besides, my experience enables me to establish as a positive practical fact, that the morbid phenomena, which depend purely and solely on the action of the ioduret of potassium, do not require for their removal in a few days any other treatment than the suspension of the medicine, or the diminution of the doses in which it is administered. The pathogenic effects of this remedy are less permanent and persistent than those produced by mercury; they cease almost as soon as the cause that produced them is removed.

Although this sketch is doubtlessly very incomplete, it will serve, I trust, to point out several counter-indications, to which, hitherto, sufficient attention has not been paid. It will also show that in some circumstances, before administering the ioduret of potassium, certain complications must be removed, and certain predispositions combatted, which might, otherwise, have the effect of preventing the proper action of the remedy. Besides, a thorough knowledge of the therapeutic and pathogenic action of the ioduret of potassium will encourage timid practitioners to employ it in proper and sufficiently large doses, while it will serve to restrain those who unfortunately are inclined to use it in excessive quantities.

It is by proceeding in this manner that we are enabled to ascertain the doses in which the ioduret of potassium ought to be given. In the majority of cases it may be administered in the dose of a scruple and a half in the course of the day, that quantity being given at thrice, and, generally speaking, the same dose must be given for five or six days to judge of the effects produced. If the symptoms do not improve, and none of the affections that have been mentioned show themselves, each dose may be increased ten grains, making three scruples in the day, to be continued for five or six days, and then, according to the effects produced, the dose may be increased in the same proportion, or remain in *statu quo*, or, if requisite, diminished. My experience being now very extensive on this point, I may say that it is rarely necessary to exceed three scruples in the day; that six scruples should be the maximum, and that it is exceedingly rare to be obliged to give less than a scruple and a half in the twenty-four hours.

I use the following syrup freely in private practice:—

Syrup of sarza, 500 scruples;

Ioduret of potassium, 16 scruples. Mix.

Of this the dose is at first three teaspoonsful in the day, then six, nine, and twelve. The medium dose is six spoonsful three times a day.

When it is requisite to administer mercury at the same time with the ioduret of potassium, I prefer giving them separately, either in the form of pill or syrup. In the first place, because the prescription may require to be frequently changed; one of the two drugs requiring, perhaps, to be omitted, or the dose lessened or increased, thus causing the loss of the medicines previously prepared; and, also, because patients do not bear so well the compounds of the ioduret of mercury and potassium as they do these iodurets administered separately, with intervals of one or two hours between each.

The remarks I have just made respecting the ioduret of potassium are applicable, in a great measure, to the ioduret of iron, a powerful remedy, which I have employed for many years, and from which I have derived great advantage. I should give it the preference to the ioduret of potassium, if its chemical composition were in general more regular and fixed. But I must say that at present, in the great majority of cases tried upon a very large scale, the ioduret of potassium has furnished me with the most favourable results. If the ioduret of iron ought to be preferred in some cases, although it is much less easily borne by patients, it is in those where there are scorbutic complications in anemic individuals—in those who are commonly said to have poor blood—in those cases, in fact, where chalybeates are indicated—and in those where the ioduret of po-

tassium is followed by well-marked anti-plastic effects.—*Prov. Med. Journ.* March 18th, 1843, from *Bull. de Therap.*, Sept. 1842.

18. *New Caustic*.—M. PAYAN, senior surgeon to the Hôtel-Dieu of Aix, speaks favourably of a new caustic paste made with the sulphate of copper. A sufficient quantity of the sulphate, reduced to powder, is mixed up with the yolk of an egg, so as to form a soft paste of a deep green colour. It is applied on a piece of lint, and when removed does not leave behind it the loss of substance, or unsightly scars, which commonly follow the use of other escharotics. In illustration of the efficacy of this remedy, M. Payan relates the case of a soldier, affected with malignant pustule of the cheek. A circular piece of diachylon was placed on the cheek, and a hole, about the size of a two-shilling piece, cut in its centre; through this the caustic was applied on a bit of lint. For five or six hours the patient experienced some degree of pain, but this was not very severe, and subsided; the caustic was removed at the expiration of ten hours, when the surface of the pustule presented a blackish gray colour; the adjacent parts were somewhat swollen and red. The local inflammation being thus modified, the eschar was allowed to come away of itself, and at the end of three weeks the wound was completely cicatrised, with scarcely any mark, save a very slight depression in the centre. M. Payan concludes that this caustic might be advantageously employed in certain cases of lupus; but it does not appear that he speaks from actual experience of its efficacy in this disease.—*Prov. Med. Jour.* April 22, 1843, from *Bull. Gen. de Therap.*, Dec. 1842.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

19. *Calculus in Appendix Vermiformis*.—In our No. for January last, there is recorded by Dr. J. F. Peebles a very interesting case of calculus in the appendix vermiformis. Two cases of a similar character have been recorded in the recent Nos. of the *Prov. Med. Journ.* The first case is related by F. J. BUTLER, Esq. The subject of the case was a lad eight years of age, who complained on the 8th Feb. of being rather unwell, and four days afterwards when Mr. Butler was called in, he found the child suffering from frequent bilious vomiting; great thirst; considerable heat of skin; frequent, but soft and compressible pulse; pain in the right thigh and groin, increased upon pressure; and slight tenderness of the abdomen. A calomel purge, with effervescing saline medicine, was given, and fomentations were directed to be applied to the thigh and abdomen.

12. Has passed a restless night, the pain in the thigh and groin being rather increased; no relief from the bowels; the sickness and all the other symptoms are much lessened; tenderness of the abdomen very slight. Ordered a warm bath; scammony, two grains; calomel, one grain. A pill to be taken every second hour.

13. Has had a more comfortable night; pain in the thigh and groin lessened; heat of skin subsided; pulse 98, soft, and rather feeble; thirst considerable; no return of sickness; bowels not acted upon. To have a common enema at once; five grains of purgative pill every second hour.

14. Ten, A. M. Slept but little; abdomen more tender upon pressure, and somewhat distended; countenance anxious; pulse quick, small and weak; pain in groin and thigh much the same; no relief from bowels. Cathartic mixture, one ounce, every second hour until the bowels are well opened; a blister to the abdomen.

Five, P. M. The bowels have been freely relieved; the tenderness and tension of the abdomen is greatly lessened; pulse much the same; in every other respect improved. Arrow-root with brandy.

15. After the last visit considerable and rather sudden prostration came on; the pulse being quick, small, and very feeble; countenance much more anxious;

abdomen a good deal distended; skin bedewed with a clammy perspiration, which, with the other symptoms, led to the supposition that some intestinal lesion had taken place. Amonia, &c., was given constantly.

Nine, P. M. Has rallied considerably since the afternoon, but the skin is still covered with perspiration, and all pain and tenderness has subsided, indicating a speedy dissolution; is perfectly sensible.

16. He slept the greater part of the night, and expired about nine o'clock, A. M., without a sigh, remaining quite sensible till the last moment.

Post-mortem Examination.—Abdomen a good deal distended; upon removing the parietes the contents presented a mass of inflammation, the whole being glued firmly together, in their natural position, by layers of half-organized lymph, whilst the viscera were much reddened and injected, especially in the right iliac fossa, where a portion of intestine of much darker hue than the rest quickly attracted our notice. Upon further examination, this proved to be the appendix vermiformis cæci, which was much enlarged and thickened, being larger than the little finger; and in its upper half were two circular perforating ulcers, close together, with rounded edges, through which had escaped two small bodies about the size of large peas, of a light brown colour, and rather nodulated surface, which proved to be calculi, and corresponded with one other which remained within the appendix. In the immediate neighbourhood of the appendix, but perfectly distinct from it, in the root of the mesentery, was situated a small abscess; whilst the cavity of the abdomen contained about two pints of very offensive purulent matter, with flakes of lymph floating in it. No other calculi were discovered in the intestinal canal of gall-bladder.

On analysis the calculi were found to be composed of inspissated mucus, fatty matter, and oxalate of lime in small proportion.—*Prov. Med. Journ.*, 25th March, 1843.

The second case is recorded by W. C. WORTHINGTON. The subject of it was a lad eleven years of age, who was attacked after swallowing two-thirds of a pint of plums with their stones, with pain in his abdomen, accompanied with retching. The following day Mr. W. was consulted, the patient then complained of great increase of pain; the abdomen had become tumid, and exquisitely tender upon pressure; frequent vomiting; bowels costive; and tongue coated with white fur; pulse small and rapid; countenance pale and expressive of great suffering. These symptoms were regarded as indicating acute enteritis, brought on by the intemperance of the preceding day. The remedies usual in such cases were had recourse to. Leeches, calomel, purgative enemata, &c., were all tried in turn, but without affording any relief to the suffering patient. He lingered till the following day, when a sudden cessation of pain took place, succeeded by collapse and death.

Autopsy, sixteen hours after Death.—On laying open the abdomen, which was very much swollen, a considerable quantity of muco-purulent fluid escaped, containing flocculi. The convolutions of the bowels presented one agglutinated mass, the product of acute peritonitis. After unfolding these parts, with a view of ascertaining more clearly if any of the detained plum-stones had proved a source of inflammatory irritation in the course of the intestinal canal, two only were detected, lying loosely in the transverse arch of the colon. On arriving at the cæcum, it presented marks of having been the seat of a more intense degree of inflammatory action than the adjoining viscera. The peritoneal surface was covered with an exudation of albuminous lymph, and the appendix adhered to the adjoining part. This process had also become gangrenous, which had given rise to a ragged perforation within an inch of its apex. Nearer to the cæcum could be felt a concretion, which at first was supposed to have been a plum-stone that had found its way within the appendix, but upon exposing it to view it was discovered to be a calculus, of a grayish colour, about three-quarters of an inch in length, and of an oblong shape.—*Ibid.*, April 8, 1843.

A case of calculus in the appendix vermiformis is related by WALDRON, in the *Midland Med. and Surg. Reporter*, vol. ii. p. 463; and another by Mr. WICKHAM, in the *Lond. Med. and Phys. Journ.*, 1827, vol. iii p. 505.

20. *Emphysema of the Lung as a cause of Sudden Death.*—A memoir on this subject by M. PRUS was read to the French Academy, on the 21st of February last, which gave rise to an interesting discussion, of which we give the following report.

"M. Louis did not consider the disease, termed emphysema of the lung, as capable of causing more than certain inconveniences, serious, without doubt, but not attended with immediate danger. He did not think that sudden death from this malady was a fact so well established as M. Prus seemed to suppose. Besides, it was well known that sudden death occurred during numerous diseases, without our being able to account for it by the state of the organs. M. Louis considered pulmonary emphysema to consist in hypertrophy of the pulmonary vesicles, but he only regarded this as a presumption, very probable, no doubt, but certainly not incontestably established.

"M. Dupuy maintained that he had ten years since proved that emphysema of the lung occupied the interlobular cellular tissue. He established that fact beyond doubt, by dissecting emphysematous lungs previously dried, and thus ascertained that there was extravasation of air outside the air-vesicles.

"M. Bonillaud agreed in M. Louis's observations respecting sudden death. He had observed in cases of emphysema the most intense fits of suffocation, occasionally wearing the most alarming aspect, but they never proved really dangerous.

"M. Ollivier d'Angers said, that as the possibility of sudden death, from emphysema of the lung, had been doubted, he would mention a case which had been seen. Two brothers-in-law, one small and feeble, the other athletic and robust, quarrelled. The latter received a blow, but was restrained by the consideration of his superior strength from avenging. He was a person of violent passions, but succeeded, by an extreme effort, in mastering his rage, and had scarcely walked forty paces from the scene of the quarrel, when he fell down dead. M. Ollivier next day examined the body juridically. There was no sign of putrefaction, and what chiefly attracted attention on opening the thorax, was the protrusion of the lungs. On examination, M. Ollivier satisfied himself that air was effused into the interstitial cellular tissue. M. Ollivier did not of course know what was the previous condition of the lung. M. Ollivier considered that it was unquestionable that most (?) cases of sudden death arose from a lesion of the lungs. He had seen several such cases. For example, a man being expelled from his lodgings by his landlord, rushed at him, but fell dead in so doing. On dissection, the lungs were gorged with blood, which escaped at each stroke of the scalpel.

"M. Velpeau was surprised that no allusion had been made to M. Lombard's theory, that emphysema of the lung was caused by the destruction of the inter-vesicular septa.

"M. Bonillaud conceived that the seat of pulmonary emphysema might be elucidated in a few words. Emphysema from a violent effort was of a traumatic origin, and had no analogy with the medical disease now under consideration, which was a spontaneous disease of essentially slow formation. The distinction between dilatation of the air-cells and extra-vesicular effusion of air, was not, as some seemed to suppose, impossible. Laennec had made the distinction, and described the two cases as two very different species; and they can be perfectly distinguished in the dead body by persons accustomed to such researches. As to the cases of sudden death, M. Ollivier does not differ from me and M. Louis. We have not absolutely denied the possibility of the event; and the case mentioned by M. Ollivier is clearly one of traumatic emphysema from rupture of the tissue of the lung.

"M. Blandin said that the anatomical seat of emphysema of the lung could not be determined until the normal structure of that organ was exactly known. But the most eminent anatomists are not agreed as to whether the pulmonary tissue consists of isolated vesicles or of cells communicating with each other. M. Blandin, nevertheless, thought that pure and simple dilatation of the vesicles most probably existed. In fact, in the dead body, we could not by pressure expel the air from the ampullæ which constituted the emphysema.

"M. Ferrus said the two questions raised by M. Prus's memoir were,—Can pulmonary emphysema alone cause death? and, Can it cause sudden death? Laennec did not consider pulmonary emphysema as a cause of death, but with his usual sagacity, he remarked, that most commonly some other serious disease was associated with this malady. He did not, however, consider interstitial emphysema to be so serious a disease as many physicians suppose it to be.

"M. Ferrus said, that, in his opinion, emphysema of the lung was a cause of asthma, but that evidently some other cause must be usually admitted as the cause of the emphysema, and this other cause, distinct from the emphysema, was, M. Ferrus considered, a nervous affection.

"It is only thus that we can explain the sudden deaths which have been attributed to emphysema. Thus, if we analyse the case mentioned by M. Ollivier d'Angers, we shall find that death cannot be attributed to the emphysema, if we examine the cadaveric alterations detected. But if, on the other hand, we attend to the symptoms, we shall find that the individual presented all the characters of the nervous temperament, and it must be particularly recollected that the patient expired during a vivid moral emotion, in a fit of violent passion. No doubt the emphysema exerted an important influence, but it certainly was not the only cause of death; the fatal event can only be explained by a nervous lesion. There is no difficulty in understanding how a disturbance of the nervous function may cause both. It is well known how great an influence a disturbance of innervation exerts on sanguification; by merely suspending, or even impeding the play of the respiratory muscles, it causes asphyxia from deficiency of air. Laennec remarked this fact, which M. Ferrus dwelt on, because of its important bearing on the point under consideration.

"M. Rochoux said, that by a strange confusion of terms, two very distinct diseases were confounded under the name of pulmonary emphysema. One of the diseases thus confounded consisted in dilatation of the pulmonary cells; the other in infiltration of the air between these cells. M. Rochoux thought that the term, pulmonary emphysema, should be restricted to the first of these affections. Emphysema always co-existed with other affections more or less serious, many thence thought that these latter affections were the cause of death; but this was a point by no means completely decided, and which required farther investigation. M. Rochoux concluded by saying that the examination of a section of a dried lung evidently showed that the pulmonary cells communicated with each other.

"M. Poiseuille observed, that, in *ordinary* respiration, a portion only of the lung was penetrated by air, and concerned in sanguification; and that it was only under peculiar circumstances of *forced* respiration, that the whole of the bronchial ramifications were employed in this function. Every circumstance which diminishes the aerial surface of the lungs, correspondingly lessens the area of sanguification; but it is obvious that this area cannot be indefinitely diminished, and if it falls below a certain limit, which it is not easy to define, death must be the result. He had ascertained, in the lungs of old people, that eight or ten vesicles were replaced by a single one, whose surface was three or four times smaller than the sum of the surfaces of the vesicles from which it was formed. This fact has been also ascertained by M. Bourguery. In pulmonary emphysema, caused by dilatation of the pulmonary vesicles, the aerial surface of the lung must consequently be greatly diminished, and sanguification must, therefore, be interfered with, and may become insufficient for the sustentation of life. In inter-vesicular emphysema, the air is not free as in the case of simple dilatation of the vesicles, and interferes with the collapse of the lungs, and thence there is always more or less dyspnoea, because the air confined in the cellular tissue compresses the pulmonary vesicles, and therefore diminishes the aerial capacity of the lung. But air extravasated into the cellular tissue of the lung has another and very peculiar effect; for, by compressing the capillary vessels of the lung, it obstructs the passage of the blood from the pulmonary artery into the pulmonary veins. Thus M. Poiseuille having distended a lung with air, without rendering it emphysematous, noted the time in which a given quantity of serum,

placed in the pulmonary artery, was expelled under a given pressure on the right auricle; and having subsequently distended the lung with air, so as to render the organ emphysematous, ascertained that it allowed a passage to only the half, the third, or a quarter the quantity of liquid, according as the emphysema was more or less considerable. M. Poiseuille, from the foregoing considerations, was inclined to think that, in the case mentioned by M. Ollivier d'Angers, in which inter-vesicular emphysema was eminently developed, death was caused, on the one hand, from the obliteration of a great number of the pulmonary vesicles, and on the other, from obstruction of the capillaries of the lungs.

"M. Bouvier observed that there was a common cause of error in determining the situation of the emphysema of the lung. It is often thought, that air is infiltrated into the cellular tissue of the lung, because it can be pressed from one vesicle to another, or even from lobule to lobule. This, however, is a very deceptive test, for the air frequently passes, not through the ruptured septa of the vesicles, but through a bronchial tube common to several vesicles or to several lobules.

"M. Royer-Collard observed, that it was important to advert to the physiological mechanism of pulmonary emphysema. Most physicians suppose, that the gaseous infiltration that characterizes emphysema of the lung is always produced by a respiratory effort. This opinion was, M. Royer-Collard thought, unfounded, though no doubt it was true in some instances, as there are several cases recorded in which emphysema of the lung has been caused by whooping-cough, the presence of a foreign body in the larynx, or difficult parturition: in such cases a respiratory effort was obviously the cause of the emphysema. M. Prus maintains, that disease of the heart does not usually correspond to the general symptoms which accompany pulmonary emphysema. M. Royer-Collard had made inquiries on this point from several physicians attached to hospitals and asylums for old persons, and particularly from their *intern* pupils, who were in the constant habit of examining the bodies of the persons who died in those institutions; and all agreed in stating, that they had not observed any striking connection between these two affections. M. Royer-Collard by no means denied, that a relation existed between diseases of the heart and emphysema of the lung; but he maintained, that it was by no means so frequent as was commonly supposed. On the other hand, ninety out of one hundred old persons, probably even more, affected with emphysema of the lung, have previously laboured under chronic bronchitis. It has been thence inferred, that the expiratory efforts and cough have caused dilatation and rupture of the pulmonary cells. This was precisely the point which M. Royer-Collard disputed. He thought that the same thing occurred here that occurred whenever the capacity of a canal was diminished,—viz., that the substance retained in consequence of that diminution, gradually dilated the cavity in which it was contained. Thus, in stricture of the urethra, and of the intestinal tube, the portion of these canals, respectively situated above the obstructed point, become dilated. Farther, the expiratory power of the lung was much feebler than its inspiratory power, and, therefore, an excess of air remained in the cells, which gradually dilated and ruptured them, and finally became infiltrated into the cellular tissue. Such was the view M. Royer-Collard took of the mechanism of senile emphysema. The cells were not, he conceived, ruptured by a sudden violent effort, which lacerated the vessels, as air forced in by a bellows would; they were gradually distended by the prolonged confinement of air, and their parietes, having partially lost their elasticity, at length gave way. It may be objected to this theory, that the bronchial ramifications frequently present no narrowing, and that often, even when catarrh has existed for a long period, no tumefaction, or other alteration of the bronchial mucous membrane can be detected. How, then, it may be asked, can the air be detained in the air cells? The answer is easy. Alteration of the bronchial mucous membrane is by no means necessary to the existence of contraction of the bronchial ramifications. They become contracted, as Laennec well remarked, by the mere accumulation in them of the fluid they secrete, which mechanically

obstructs the free exit of the air. It is obvious that this kind of obstruction may occur in bronchial tubes that are actually dilated. We know, however, from the researches of M. Louis, that dilatation of the bronchial tubes occurs rarely, and when it has been observed, it did not correspond to the portion of the lung affected with emphysema. Another consideration strengthened this theory, and at the same time aided in the discrimination of senile from accidental pulmonary emphysema,—viz., that the modification of the lung, which occurred in emphysematous persons advanced in life, was in reality a mere exaggeration of the natural condition of the lung in old age. Physiology tells us, that as man runs through the different phases of his existence, the functions in general, and the secretions in particular, are displaced, pass from one organ to another, and change their form and nature. In old age, the aqueous secretions are, in particular, singularly diminished in quantity. The skin becomes dry, and exhales but a moderate quantity of that vapour which comes off with the carbonic acid; dry chronic eczematous, and other cutaneous affections, are of frequent occurrence. The diminished quantity of the humours of the eye causes flattening of the cornea. The gastric and intestinal fluids become less abundant, the liquid portion of urine is diminished in quantity proportionably to its solid contents, and the secretion of bile is lessened. The menstrual and spermatic secretions are also diminished in the two sexes respectively, and, finally, the pulmonary exhalation is considerably lowered in quantity. Most of these secretions are, however, evolved in another shape. On the skin, we find an augmentation of the inspissated secretion of the follicles, of the wax of the ear, of conjunctival mucus, and of the scales of the epidermis. In the intestinal canal, the secretion of mucus is increased, while the bile, though lessened in quantity, is thicker and more viscid. The urine deposits more sediment, and has a stronger smell; and the bronchial mucus, which more particularly bears on the present question, is always secreted much more copiously than at the earlier periods of life. Such is the natural condition of things in old age,—a condition which may be termed the state of health. If, then, this condition is not disturbed, the foregoing considerations explain why it is that expiration is accomplished with a certain amount of difficulty, whence results the detention of a certain excess of air in the air-cells, which consequently become slowly distended, but not ruptured, so as to permit the air to escape into the cellular tissue. It is an ascertained fact, that the air-cells are always more dilated in old persons than in the adult; the superabundance of mucus may not be the only cause of this dilatation, but it is certainly one of its causes.

“But suppose that any cause—exposure to cold for example—acts not directly on the bronchial mucous membrane, but affects the skin, so as to lessen the small amount of aqueous exhalation it still secretes, an augmentation of the bronchial mucous secretion, in other words, a catarrh must inevitably result. This is an inevitable result of the *law of the equilibrium of organs*, as it has been termed by M. Geoffroy Saint-Hilaire, a law which establishes so intimate a correlation of action between the external and internal skin, and between the pulmonary and cutaneous secretions. The morbid state in question is then merely an exaggeration of the state of health. The natural condition of old age is only relatively a state of health, or should rather be termed a normal cachexia; consequently, there is but a step from the natural state to disease, and when this step is made, expiration becomes still more impeded, and rupture of the air-cells readily occurs. From these considerations M. Royer-Collard considered that we must admit a decided difference between senile and accidental pulmonary emphysema. The etiology, progress, duration, and the mechanism of the formation of the two affections differed. Accidental pulmonary emphysema did not seem to be always produced in the same way. The rupture of the pulmonary vesicles was sometimes caused by a forced inspiration, sometimes by a violent expiration. M. Royer-Collard had lately seen a curious case connected with this point. A young man lately returned from the East, had contracted the habit of smoking after the Turkish manner, which consists in inspiring the tobacco smoke by means of a violent inspiration, so that it penetrates into the bronchial

tubes, where it is retained, occasionally so long that the individual speaks and drinks, and does not expel the smoke till after the lapse of five, six, or even ten minutes after its ingestion. Obviously such a practice should cause just the same consequences as ingestion of air into the lungs, and destroy the delicate parietes of the air-cells, and such was the result in this case. Another case of pulmonary emphysema resembles senile emphysema in its mechanism—that is the emphysema almost constantly observed in persons that have been hanged or drowned. There a mechanical obstacle opposing the expulsion of the air accumulation in the lung, rupture of the vesicles necessarily results. M. Royer-Colard considered that these views were important, both as leading to a more just view of the mode of formation of pulmonary emphysema in different cases, and as indicating a rational method of treating the affection. Accidental pulmonary emphysema may be cured; several unexceptionable cases of its cure have been recorded. In an adult, otherwise in good health, bleeding would be especially useful, as it would favour the absorption of the gas from the tissue of the lung. In old persons the treatment should be rather preservative than curative. In the first instance, it is indispensable to avoid every influence capable of exciting catarrh. It is to be observed, that senile pulmonary emphysema is infinitely more frequent in hospitals and among the poor, than amongst the better classes. When catarrh does occur, it should be briefly treated by the method of derivation; the skin should be excited by friction, by sudorifics, topical irritants and blisters, purgatives should be administered to excite a flow of mucus from the intestines, the patient should be kept in an atmosphere of mild equable temperature, and tonics should be given to support the strength. The reason that pulmonary catarrh and emphysema were so frequent among the inmates of Bicêtre and Salpêtrière was that they were insufficiently clothed and warmed. The greatest difficulty was experienced in obtaining for these poor creatures flannel, wine, or other necessities which they required. Every physician who had ever been attached to those institutions had loudly remonstrated on this subject. On the other hand, those affections are much less frequent and serious at the Hôtel des Invalides, because the diet is better, and the establishment is in every respect more comfortable and more regularly conducted.

“M. Piorry had no doubt that air could cause death by entering the blood through the ruptured inter-vesicular septa. He had in experiments on living animals ascertained that this occurred. It was also incontestable that the bronchial mucus could produce dilatation of the air-cells, by obstructing the bronchial tubes in which it accumulates. The good effects of tartar emetic in such cases confirmed the truth of this view. M. Piorry had always observed that its administration gave immediate relief in nine cases out of ten. The rarity of emphysematous dyspnoea in summer, as contrasted with its frequency in winter, was explained on the same principle—that is to say, by the infrequency of bronchitis in fine warm weather.

“M. Blandin could not accede to the assertion that death might result from air becoming mixed with blood in the lungs. M. Roux had mentioned a case in which this was alleged to have occurred, and to have caused death. In that case a body was brought to the dissecting-room, the external appearance of which seemed to indicate that the subject had met with some violent death. Bichat opened the cranium in the presence of M. Roux, and, to his astonishment, found all the arteries of the brain distended with air. On inquiry it was ascertained that the individual had died while making a violent and prolonged effort, and Bichat concluded that the effort had caused rupture of the septa of the air-cells, whence air passed into the blood and caused death. M. Blandin conceived that nothing could be concluded from this case, because the details respecting the previous history of the patient and the mode of death were very imperfect, and because neither M. Bichat nor M. Roux had ascertained that the patient was really affected with emphysema; it was not known either whether the elastic fluid contained in the vessels of the brain was air or some other gas. M. Piorry's experiments were also inconclusive, because efforts produced artificially and violently on animals had no relation to the occurrence of slow and spontaneous emphysema in man.”—*Lond. and Edin. Month. Journ. Med. Sci.* April, 1843.

21. *Case of Paralysis without loss of Sensation, from disease of the Cervical Medulla.* By JOHN WEBSTER, M. D.—Mr. G., æt. 36, had, in 1836, a phagedenic ulcer of the left leg, which got well after some months; but it again broke out in 1839, when he had also a large chronic ulcer on the posterior pharynx of some duration, but not of a syphilitic character. He had pains in the head, with very costive bowels, during the greater part of the year 1839; in January, 1840, epileptic attacks, with very slow pulse, now supervened; and in the spring following, Mr. G. had spasmodic contractions of the lower limbs, accompanied by a sense of weakness in the back; and latterly he lost the use of his legs, and ultimately the entire control over every muscle situated lower than the neck. During the last twelve months of the patient's life, the whole body was paralysed, excepting the head, neck, and diaphragm, by which breathing was entirely carried on, and not by the muscles of the chest. However, sensation remained perfectly natural throughout the entire surface of the body; and towards the termination of the disease, the patient's feelings were even more acute than usual, and he could always tell, on the slightest touch of a bystander's finger, the exact spot to which it was applied. Severe spasmodic twittings of the legs and arms were now more frequently noticed than before, and these were sometimes so violent as almost to throw the patient off his couch. The extremities were often very cold, but occasionally they felt also burning hot, with a sensation of excessive coldness in the epigastrium. The urine was drawn off by the catheter for many months, but latterly it passed involuntarily, as the fæces did likewise. All the symptoms continued unabated in violence to the last, and the patient died in July 1842, but retaining his intellectual faculties perfect until the last.

Treatment.—Medicine had very little influence in arresting the disease, although the treatment may have relieved the severity of some of the symptoms. The remedies consisted principally of purgatives, mercury, sarsaparilla, hydriodate of potassa, strichnia, and morphia to procure sleep or allay spasm. Other means were also used, but the treatment which appeared to produce the most benefit was active purging, and the tincture of cantharidis taken as a diuretic; at the same time that a copious discharge was kept up for many months consecutively from two large issues on the nape of the neck.

Autopsy.—Nothing particular was found in the head, excepting that the arachnoid membrane over the pons varolii adhered to the parietal layer of that tissue, and about two ounces of serum were found in the ventricles; but there was no tumor or change of structure either in the brain or in the cerebellum. The thoracic and abdominal viscera were healthy, with the exception of the bladder, which was much contracted in size, thickened in its coats, whilst the omentum, and some of the small intestines, adhered to its surface. On opening the spinal canal, the theca, corresponding to the three or four lower cervical vertebræ, was much distended; the arachnoid cavity was filled with lymph, and there were adhesions of the membranes to the chord, which appeared firmer at the anterior than at the posterior portion, and the parts were inseparable. The cord itself was longer than usual at this particular point, felt soft and pulpy to the touch, and on being divided it was found to be in an almost diffuent state, infiltrated with serum, but of a natural colour. For the extent of half an inch above this point the chord exhibited a dusky red colour, but there was no difference observable betwixt the two columns, both being alike softened and discoloured; the parts above and below being perfectly healthy, and of a natural appearance.—*Lond. Med. Gaz.* Nov. 1842.

22. *Leucorrhœa cured by Iodine.*—M. CH. VAN STEENKISTE has published the details of two cases of leucorrhœa treated with iodine injections, in the "*Annales de la Société Médico-Chirurgicale de Bruges.*" The first case in which he tried it was that of a sempstress, twenty-two years of age, of a scrofulous constitution, who had laboured under leucorrhœa three years. The discharge was thick and abundant, and of a milky or slightly yellow colour. The patient presented all the symptoms of anæmia; the mucous membrane of the vagina was very pale,

the cervix uteri red and tumefied. The genitals were excoriated. An injection, containing four scruples of iodine, sixty of alcohol at 25°, and 125 of common water was ordered for her, of which about thirty scruples were thrown up into the vagina. Heat and irritation were immediately experienced in the parts, and the discharge ceased entirely for three hours, returning then in larger quantity than ever, accompanied for a few minutes with very severe pain in the genitals, headache, and general spasms. These symptoms soon disappeared, and the discharge did not again return till the next day, when the same quantity of iodine was injected, less severe symptoms following its use. The catamenial secretion, which had been absent seven months, appeared towards evening, and continued for three consecutive days, unaccompanied by any other discharge. On its cessation, the leucorrhœa again showed itself, but less in quantity than before. M. Steenkiste, desirous of retaining the iodine more in contact with the vaginal mucous membrane than it had been previously, introduced a speculum, with the assistance of which he filled the vagina with five pieces of charpie, soaked with the iodine, and left them there, intending to remove them in an hour's time. Four of these pledgets were expelled by pains which came on in the interval, and when the surgeon sought to withdraw the fifth he could not introduce the speculum, the vagina was so contracted. The cure thus induced has been permanent, and the catamenia have again appeared. The second case was equally satisfactory.—*Prov. Med Jour.* April 22, 1843.

23. *Stammering*.—Dr. ABERCROMBIE read a paper on this subject to the Medico-Chirurgical Society of Edinburgh in January last. When his attention was first directed to the subject, he stated, the following facts attracted his notice:—

I. He observed that stammerers never stammer in *singing*.

II. The individual on whom his first observations were made, did not stammer when he was obliged to speak in a louder tone of voice than usual, as when conversing in the midst of a noisy crowd, or in a carriage on a rough road.

III. The precentor of a church came under his notice who stammered in common conversation, but showed no hesitation when *reading out the line*, as it is called, which was done in a peculiar high-pitched tone of voice, such as is usually employed by precentors for that purpose.

IV. He found that stammerers have no difficulty in performing any of those movements of the lips and the tongue, by means of which the consonant sounds are produced, when they are directed to make these movements simply, that is, without any reference to speech.

V. He observed, that in some stammerers, the difficulty is not confined to the consonant sounds, in which the peculiar action of the organs of speech is more directly exerted, but extends to other sounds, in which these organs are little, if at all concerned, such as the simple aspirated *h*, as in the words *happiness*, *holiness*, &c. In one individual, indeed, who was treated successfully, he found that he often hesitated at such words as these, long after he had overcome every difficulty respecting the consonants.

By such facts as these he was led to the conjecture, that the affection does not depend upon any defect in the organs of speech, properly so called; but is rather connected with a deficiency in the management of the voice; and he thought it would be found, that, when a stammerer gets into that peculiar state of hesitation, which is so familiar to every one who has witnessed it, he is endeavouring to speak when *he has no voice*; that is, when the lungs have become emptied of air, or nearly so.

According to these views, the principles on which the cure of the affection may be accomplished, appeared to be the following: In actually accomplishing a cure, every thing depends upon the perseverance of the patient himself after the principles have been explained to him.

1. To direct the attention of the individual to the three distinct parts, of which the function of speech consists, viz.

1. A full and continuous current of *air* proceeding outwards from the lungs.

2. The formation of this into *inarticulate sound*, or *voice*, by the action of the larynx.

3. The formation of this into *articulate sound*, or *speech*, chiefly by certain movements of the *lips* and the *tongue*.

He soon perceives that he has no difficulty in performing any of these actions, when they are thus made separate objects of attention; and in this manner he is led to understand that his affection does not depend upon any defect in any of the organs of speech, or a difficulty of performing any of the processes of which the function consists; but in a certain want of harmony among these processes, which has grown into a habit. He is easily made to perceive, for example, that he has no difficulty in performing that motion of the lips by which is formed the sound of the letter *b*, then why should he have any difficulty in saying *bee*, *boy*, *bell*, &c. When the formation of each letter is thus made a separate object of attention, or a distinct voluntary act, it is remarkable to observe how the difficulty seems to vanish; and by continued attention in this manner, the habit is gradually broken, in as far as concerns this part of the process.

II. The second, and principal part of the treatment is, to exercise the individual in the habit of never attempting to speak without having a FULL AND STRONG CURRENT OF VOICE. He may be made sensible of the effect of this, by making him read in a strong loud tone of voice, as if he were calling to a person at a distance,—or in a tone resembling singing or chanting,—or in the peculiar tone of a precentor, in reading out the line, which has been already referred to. When he has thus been made to understand the principles on which the removal of the affection is to be conducted, the farther treatment consists in a course of exercises calculated to give him a full command of his voice, and so to correct the habit which he has acquired, of speaking, or attempting to speak, without sufficient voice. For this purpose he should be made to read aloud, several times a-day, from an author whose style is somewhat declamatory. In doing so, he should be made to read in a high-pitched tone, and to stop frequently and take a full breath, so as to have the voice thrown out with a force beyond what is required for ordinary reading or ordinary conversation. With this view it is necessary to make him stop and take a full inspiration much more frequently than would be required by another person: for it is in this part of the process that we are to trace, in a great measure, the bad habit which he has acquired, and the opposite habit which he is required to cultivate. In particular, whenever he feels the tendency to hesitate at a word, he is to be taught to stop instantly, take a full breath, and then try it again. He will be immediately sensible of the effect; and a succession of voluntary efforts of this kind will be gradually formed into a habit, calculated to correct the injurious habit, in which, I believe, we are chiefly to trace the pathology of stammering.

In a note appended to this paper, Dr. Abercrombie remarked, that since his observations were written, he had found that the same principle, respecting the influence of respiration in this affection, had been pointed out by Dr. McCornack of Belfast, in a small volume published in 1828.—*London and Ed. M. J. Med. Sci.*, March, 1843.

24. *Decrement of Weight in Phthisis*.—DR. ROBERT WILLIAMS, physician to St. Thomas's Hospital, in a paper read to the Royal Medical and Chirurgical Society, stated that some years ago he began a series of experiments on possible remedies in phthisis, and in making these experiments he determined on weighing the patients, considering that an increase or decrease of weight would afford a better criterion of amendment, or otherwise, than the fallacious hopes with which nature cheers the individual in this desolating disease. The numbers weighed were few, perhaps eight, unexpected difficulties having occurred, and the experiments being prematurely terminated in some cases by the patient leaving the hospital. One general law, however, was observed in all, viz., that the loss of weight was not continued but intermittent; or, the patient being weighed weekly, and as nearly as possible under the same circumstances, showed an alternate increment and decrement generally of one or more pounds on each alternate week. The decrement, however, usually exceeded the incre-

ment, and consequently every few days an increasing balance was left against the patient.

The only inference which Dr. W. is able to deduce from the singular law of the alternate increment and decrement of weight in phthisis, is, that it may afford an explanation of the buoyant feelings of the patient, who must necessarily feel his symptoms ameliorated, and his health improved every few days. It is evidently the measure of the last flickerings of the vital principle, but how the lamp of life is fed is, perhaps, beyond our power of explanation.—*London and Edin. Month. Journ. Med. Sci.*, March, 1843.

25. *Strumous Peritonitis*.—The March number of the *Dublin Journal of Medical Science*, contains communications from Sir Henry Marsh and Dr. Fleetwood Churchill, on a form of peritonitis occurring in persons of a strumous diathesis, to which the above title has been given.* Strumous inflammation of the peritoneum with effusion may present itself either as an acute or chronic disease; the latter, which is the more frequent form, may be an evident consequence of the former, or it may occur without our being able to recognize any preceding acute stage, coming on so gradually, in fact, that the nature of the complaint may not be discovered until it is fully developed. As M. Dugès observes, “there may be occasional pains, colics, irregular attacks of diarrhœa, emaciation, paleness, for weeks or even months before the disease is established, while from the earlier and more prominent symptoms being referable to the mucous membrane of the intestinal canal, the real affection may be overlooked, and the fatal results attributed to the diarrhœa.

Bad diet, cold, privations, excesses, dentition, constipation, &c., have been mentioned as exciting causes of this variety of peritonitis; but the principal one, in Dr. Churchill’s opinion, is an extension of irritation from the intestinal mucous membrane. It also occurs as one of the sequelæ of febrile diseases, such as scarlatina, measles, &c. Sir H. Marsh observes, that it frequently arises without the intervention of any well-marked exciting cause, and sometimes sets in either gradually or abruptly, during the progress of some other disease. The age most obnoxious to its supervention is between early childhood and puberty, and for a few years after that period; it is rarely met with in infancy or after the age of thirty. It is almost confined to children of a strumous habit and lymphatic temperament; and it is frequently complicated with, and is perhaps a consequence of, mesenteric disease.

The symptoms of the acute form are, wandering pains in the abdomen, increased on pressure, and gradually becoming more severe, with hot and dry skin, scanty, high-coloured urine, small and very frequent pulse, and extreme distress and anxiety, rapidly followed by effusion into the cavity of the peritoneum. In the chronic variety the mode of invasion varies widely; in one class of cases the patient labours under diarrhœa for a considerable time with or without pain; the appetite is pretty good, the temperature natural, and the pulse quiet; but at length—it may be weeks or months—complaints are made of a sensation of pricking, or of paroxysms of pain and a feeling of tightness in the abdomen, which, upon examination, is found to be more or less swollen. In other cases there is a certain amount of pain from the beginning, occurring in paroxysms with perfect intervals, and though at first limited to one part of the abdomen, yet by degrees spreading over and occupying the whole; or again, there may not be any complaint of pain, merely a feeling of distension, with variable appetite, irregular bowels, and progressive emaciation. In many cases, indeed, the early symptoms are so slight that no attention is paid to them until the emaciated appearance of the patient excites alarm. The abdomen, on examination, is probably found tumid, and in some degree tender in parts. Dr. Gregory states that tenderness on pressure is probably felt from the commence-

* This is the disease well known to the French pathologists under the name of *tubercular peritonitis*, and which led Dr. Hennis Green to give the name of *tubercular meningitis* to the analogous affection of the brain in children.—Eds.

ment. As the disease advances, the patient complains of pain occurring in paroxysms, beginning in some one part of the abdomen, and gradually spreading over the entire, and increasing in frequency and in severity according to the duration of the disease. This state is accompanied by a certain amount of tenderness on pressure, and more or less uneasiness in walking or even standing erect. This is followed by a feeling of distension and enlargement of the abdomen, with fluctuation more or less evident on careful percussion. The enlargement of the abdomen is not always equable; in some cases, especially in the commencement, the umbilical region protrudes. As the effusion increases, the entire abdomen enlarges, loses its softness, and becomes tense and hard, though occasionally unequally so, and its integuments hot and dry. In some rare cases the intestinal canal preserves its integrity for a long time; the tongue is pretty clean, the appetite much as usual, the bowels regular, or perhaps rather constipated; but in the large majority of cases we find the tongue white, loaded, and flabby; more or less thirst; the appetite irregular and fastidious, sometimes increased, more frequently impaired or lost altogether; the bowels relaxed or constipated, perhaps alternately; the stools fetid, and of whitey-brown or bluish colour. The quantity passed sometimes in the twenty-four hours, without the aid of medicine, is enormous. Dyspnoea may be induced either by the quantity of the abdominal effusion or by accompanying hydrothorax; the pulse is increased in frequency, but diminished in strength and fulness; the urine is scanty, the skin hot, and there are distinct evening exacerbations of a fever of the hectic character. It is hardly necessary to add that so formidable and long-continued a disease is attended with great emaciation and exhaustion. As it progresses, the local symptoms are aggravated; the quick pulse and fever, with exacerbations, more remarkable; the weakness and incapability of exertion more extensive; the patient, in short, is utterly worn out.

The course of the disease is generally very long; it may terminate, first, in resolution, secondly, in a circumscribed collection of the effused fluid and its final evacuation with more or less subsidence of the original affection, and, thirdly, in death. The majority of the cases terminate fatally at different intervals from the commencement of the attack. Instead of diminishing, the symptoms progressively increase in intensity. The abdomen becomes very tense and tender, the fever high, the pulse very quick and feeble, the thirst considerable, the diarrhoea persistent, the exacerbations severe, the emaciation and exhaustion extreme. The countenance becomes sunken, the extremities cold, the surface covered with a clammy sweat, and occasionally dotted with petechiæ, and at length, after a prolonged period of suffering, death closes the scene. The appearances presented after death are, more or less severe effusion into the peritoneal cavity, with shreds of lymph floating therein. The intestines are agglutinated together, and sometimes to the peritoneum, which membrane is occasionally thickened and partially injected, and sometimes studded with miliary tubercles, or has tubercular matter deposited on it. The mesenteric glands may be healthy, or they may be enlarged, and contain tubercular matter. In two of Sir H. Marsh's cases there were collections of a thin pus mixed with curdy matter, one of these in one case communicating with the bowel by an ulcerated perforation, and containing a dark-brown fluid, having a very evident feculent odour. Dr. Gregory observes that the mucous membrane of the bowels, particularly of the small intestines, appears ulcerated in various places, and at these points of ulceration the convolutions of the intestines communicate, so that instead of forming one line of canal, as they will continue to do even in advanced stages of chronic peritonitis, they constitute a mass of tubes communicating freely with each other, and with the thickened and ulcerated peritoneal membrane by innumerable openings.

The prognosis in the majority of cases is unfavourable. Where the peritoneum alone is affected, the patient has certainly a chance of recovery, but if the mesenteric glands, or the mucous membrane of the intestines or pleura be involved, the case will probably terminate unfavourably.

The treatment should consist in the application of leeches to the abdomen,

when admissible, poppy fomentations, the use of the warm bath, and the employment of mercury so as to affect the gums. It may be exhibited internally or by inunction; in many cases the latter is preferable, as, when diarrhœa occurs, the bowels are too irritable. A scruple of mercurial ointment should be gently rubbed in over the abdomen, thighs, legs, back, &c., until the gums are touched. Flying blisters to the abdomen are also useful. The diet must be bland and unstimulating.—*Prov. Med. Journ.*, April 15, 1843.

26. *Delirium Tremens cured by Ammonia*.—DR. SCHARN extols highly the powers of the liquor ammoniæ pyro-oleosus, or the liquor ammoniæ succinatus, in the treatment of delirium tremens, and asserts that under its influence, "the most violent madman, uncontrollable by the united efforts of four men, is brought, in the course of a few hours, from his state of excitement, and restored to rational existence."—*Lond. & Edin. Month. Journ. Med. Sci.* May, 1843, from *Caspar's Wochenschrift*, No. 5, 1843.

27. *Urea discovered in the Blood of individuals labouring under Inflammation of the Lungs*. By Dr. F. SIMON.—Having taken the coagula of six bleedings performed upon males and females, labouring under inflammation of the lungs, with a view to procuring a quantity of hæmato-globulin, Dr. Simon found that, by treatment with æther, alcohol, &c., and, finally, the addition of nitric acid to the syrup alcoholic extract, and desiccation under the air-pump, he procured a crop of crystals, which, under the microscope, presented themselves as an aggregate of rhombic tables, and which he discovered to be nitrate of urea.—*Ibid.*, from *Müller's Archiv.*, No. 1, 1843.

28. *Spontaneous Rupture of the Spleen*. By Dr. ALLE.—A robust man, 50 years of age, had suffered from intermittent fever many years ago, from which, however, he had long recovered completely. In the course of the few last years, he became subject to "stitch in the side" when he walked quickly; he had an attack of rheumatic fever in the spring of 1840; in the autumn of the same year he began to suffer extreme annoyance from a sense of burning heat in the soles of the feet, which, although he was not otherwise ill, kept him confined to his chamber through the winter. In January, 1842, he first complained of burning pain in the region of the spleen, and Dr. Alle was summoned. The patient had a sallow look, no proper appetite, and his nights were sleepless; the urine was high-coloured; the bowels confined; there was burning pain in the region of the spleen, which was increased on pressure. The whole left side of the abdomen, from the hypochondrium downwards to the crest of the ilium, was extremely hard, without any irregularity; the feet were livid, and the burning of the soles still continued. There was little or no proper pyrexia. After three weeks of simple antiphlogistic and resolvent treatment, the patient complained one day at noon of a feeling, as if something had given way in his abdomen, and then of severe abdominal pain, and of sickness and vomiting. Before Dr. Alle could be fetched, the patient was moribund, and in about twelve hours expired, with every indication of extravasation of blood into the cavity of the abdomen.

The post-mortem examination, in fact, showed that the greatly enlarged and hardened spleen had literally burst, and given occasion to a fatal hæmorrhage into the general cavity of the abdomen. The organ appeared to be composed of lobuli, of the size of hazel nuts.—*Lond. & Edin. Month. Journ. Med. Sci.*, March 1843, from *Oster. Med. Wochens.* No. 51, 1842.

[Two other cases of spontaneous rupture of the spleen are recorded in our No. for Oct. 1842, p. 369.]

29. *Supposed Antivariolous Properties of Tartar Emetic Pustules*.—M. LICHTENSTEIN has published a curious article on this subject in "*Hufland's Journal*." His attention having been excited by the similarity of appearance between the smallpox and tartar emetic pustules, he was led to make some experiments on the properties of the latter. Clear lymph, taken from the pustules produced by

friction with the tartar emetic ointment, was introduced, in the usual manner, underneath the epidermis of persons who had not been vaccinated. It gave rise to pustules which it was impossible to distinguish from those produced by vaccine matter. The lymph of the tartar emetic pustules was inoculated from individual to individual, and invariably gave rise to pustules of the same form, and attended by the same symptoms.

Since the year 1836 the author affirms that he has practised thirty-one vaccinations and re-vaccinations with the matter from tartar emetic pustules; the persons thus vaccinated were placed in intimate relation with individuals affected with smallpox during an epidemic of that disease, and they all escaped contagion.

Many further experiments will be required before the conclusions of the author can be admitted.—*Prov. Med. Journ.* Nov. 5, 1842.

30. *Death from enlarged Bronchial Glands.*—Dr. GOLDING BIRD has recorded in the *London Medical Gazette*, (Nov. 1842,) a case in which death appears to have resulted by the constriction of the left bronchus by two enlarged bronchial glands, so as to prevent ingress and egress of air to the left lung, the right being so full of tubercles as to be incompetent to the task of arterializing the blood. Dr. Bird states that he has seen three other cases in which death occurred in the course of phthisis, where the disorganization existing was not sufficient to account for the fatal termination, and in which pressure on the left bronchus existed; in two the constriction was produced by enlarged bronchial glands, and in one by an aneurismal tumour.

31. *On the Epidemic Smallpox at Lorze in 1836, and the protective power of Vaccination.*—By M. MILLON. Every individual who had not been vaccinated was affected sooner or later with the smallpox; and in them the disease lasted from fifteen to twenty-five days. This difference in the duration of the disease depended on the mildness or severity of the case. It was invariably remarked that the milder the case, and the fewer the pustules, the sooner did the disease run its course; while, on the other hand, the more severe the attack, the longer was it of running its course, the longer was its duration. Many who had not previously been vaccinated were induced to be so during the prevalence of the epidemic, and the disease was invariably rendered milder in consequence.

The circumstance of having been previously vaccinated did not appear to exempt the individuals from being variously affected with varieties of the smallpox. Thus, most of those previously vaccinated had the chickenpox eruption, a few others the varioloid eruption. It was very difficult to distinguish between the varioloid eruption and the smallpox during the first days of the disease. By the seventh or eighth day, however, the distinction was easy, as the varioloid eruption began to dry up, while the smallpox ran on to suppuration. These eruptions are, therefore, essentially the same, says M. Millon, the difference arising from the disease in the one case running its natural course, in the other being modified by vaccination, or transformed into the vaccine form. Vaccination, therefore, like inoculation, has created a new variety of smallpox. This conclusion is arrived at from comparing the appearance of the eruption after inoculation, and that after vaccination, when it assumes the varioloid form, which, he states, are not to be distinguished from each other. As inoculation with the smallpox gives no greater security than vaccination, and besides, has the great inconvenience of keeping up and propagating a highly contagious disease, besides being every now and then attended with considerable mortality, M. Millon strongly advocates the superior advantages of vaccination, which, if it does not always preserve from attacks of smallpox, what is more essential, it always or almost always deprives it of all danger. He adds the following important fact from his own observation. When by chance a person who has been vaccinated dies during an attack of smallpox, it frequently happens that this takes place during the feverish stage, or on the first appearance of the eruption, so that there is every reason to believe the same person would have

equally fallen a victim to any other feverish disorder, while in smallpox the chief mortality occurs during the suppurative stage.—*Ed. Med. & Surg. Journ.* April 1843, from *Bull. de l'Acad. de Med.* Oct. 1843.

32. *Confluent Smallpox in a new-born child.*—M. GERARDIN exhibited a child to the meeting of the French Academy of Medicine, born five days previously with a full eruption of confluent smallpox in a state of suppuration. The mother was healthy and had no complaint. About eight or ten days before her confinement she had visited a friend in the Hospital of La Pitie, near whom lay a person affected with smallpox. She herself suffered nothing in consequence of this visit, but the fetus *in utero* had apparently been affected with the disease in consequence.—*Ibid.* Jan. 1843.

33. *Universal Suppuration of the Cerebro-spinal Membranes, without any corresponding symptoms.* By Professor WAGNER of Vienna.—Jacob Eichinger, a soldier in the 4th Light Infantry Regiment, had enjoyed good health during the seven years that he had been in the service. On the 17th of November, 1839, he was suddenly attacked with symptoms of gastric derangement, which increased on the following day, and compelled him to go to bed, at about a quarter to twelve, A. M. He fell asleep, and awoke in an hour delirious. Convulsions soon supervened; the man became comatose, and, although the most active antiphlogistic treatment was had recourse to, he died on the following day, November 19th, at half-past four in the morning.

The body was examined on the 20th. The cranial bones were remarkably thin, and the right side of the skull somewhat prominent. The whole of the superior surface of the cerebral hemispheres was covered with a layer of yellow fluid pus, and appeared somewhat flattened; no trace of the arachnoid could be found at this part. The pia mater was highly congested, and infiltrated with pus in its prolongations between the convolutions; the substance of the hemispheres was very much softened, and contained numerous points of blood when cut through; the lateral ventricles empty, and their walls softened in the highest degree; the pineal gland was very much enlarged, and did not contain any calcareous matter. The inferior surface of the cerebrum, and the whole of the cerebellum, were covered with pus, and extremely soft; the arachnoid here also appeared to have been destroyed; the base of the cranium was bathed in pus; no fluid in the third or fourth ventricles; the pineal gland much injected. The inner surface of the trachea was of a light red colour, but the bronchi was healthy. There were some adhesions between the pleuræ, and the substance of the lungs was much congested; a few tubercles in the upper part of the left lung. The heart was very large, soft, and loaded with fat, but not diseased. In the abdominal cavity nothing worthy of notice was found. The bladder contained about half a pint of turbid urine. The fibrous membrane of the spinal marrow was much injected, and the cellular membrane particularly so; its whole surface, and especially opposite the cauda equina, was bathed in the same kind of purulent matter as the brain; there was no trace of the serous membrane, and the substance of the spinal marrow itself was converted into a thin, pultaceous matter.

Remarks.—This remarkable case is almost unique in the annals of medical science. Pathologists must decide whether the inflammation commenced in the arachnoid membrane, or extended to it from the softened nervous tissue, or whether both states were simultaneously produced by one and the same cause. But, however this may be, we cannot but be struck with surprise that such extensive softening of the cerebro-spinal nervous mass, and universal suppuration of its serous membrane, should have existed without the production of any symptoms to indicate such extensive disease. Particular inquiries were made in the regiment in which the man had served, and it was ascertained that during the seven previous years he had enjoyed excellent health, having continued to do his duty as a soldier without interruption. It was only two days before his decease that gastric and convulsive symptoms made their appearance, and quickly terminated

in coma and death.—*Prov. Med. Journ.*, Dec. 3, 1842, from *Ostr. Med. Woch.*, Nov. 4, 1842.

34. *Typhus Abdominalis*.—Much new light has been lately thrown upon the pathology of this form of disease (typhus) by the researches and observations of Professor ROKITANSKY, and which have been made known to the profession in this country by my friends and colleagues in Vienna, Drs. Drysdale and Russell, in their valuable article on the Pathology of Typhus, in the note to "Fletcher's Elements of General Pathology." From this we learn that "the Typhus process is characterized in an anatomical point of view by the deposition of a peculiar morbid product, which forthwith undergoes a distinct series of peculiar changes. The seat of this process is various, and depends upon the specific relation of the general process to certain organs. The tissues most subject to this deposition are the mucous membrane and the lymphatic glands; and in Austria, at least, where the observations were made, the mucous membrane of the ileum (*ilio-typhus*) is most frequently affected, but it also occurs in the bronchia and lungs, (when in this seat constituting most probably the *exanthematic typhus*.) and also, though very rarely, in the colon (*colo-typhus*)."

Let us examine its changes in the intestines—the most frequent seat of the process. First, the stage of congestion, corresponding to the period of irritation and catarrhal or gastric symptoms. "It exhibits a congested state of the vessels, or succulent condition of the mucous membrane, particularly of the villous coat extending over the greater part of the ileum, but better marked at particular spots—especially near the cæcum; the mesenteric glands are slightly swollen, their vessels are gorged with blood, their substance soft and elastic, and their colour dark.

"In the second stage (the stage of deposition of the morbid product, *i. e.* typhus infiltration, which is in respect to the degeneration its crude stage) the congested stage moderates to a certain degree, and is reduced to several spots corresponding to the Peyerian glands, and a few solitary follicles. Here it appears in the form of round elliptic '*plaques*,' varying from half a line to three lines in thickness, which are formed by the deposition of a peculiar substance in the Peyerian plexus and submucous cellular tissue. On a more close examination the degeneration is found to be so deposited in the submucous tissue of the follicles, that the deepest layer of that tissue, immediately covering the muscular coat, remains free from infiltration. It very seldom reaches beyond the bounds of the follicular apparatus.

"The mesenteric glands are now more swollen, so as to reach the size of a bean or hazel nut, blue, or grayish-red, tolerably consistent, and apparently infiltrated with lardaceous substance.

"The commencement of the third stage (that of intumescence, softening and throwing off of the degeneration) is indicated by a return of the congestion in the ileum in a violent degree. The vessels, especially the veins, both in the mesentery and in their ramifications in the intestines, are gorged with dark-violet viscid blood, and the tissue of the mucous membrane presents again a swollen appearance, more especially in the villi, which yield a grayish-white turbid fluid on pressure.

"But the most remarkable change takes place in the *typhus-plaques* and mesenteric glands, which become spongy and turgescient. These changes may take place in either of the following ways. The deposit assumes the appearance of a grayish marrow-like substance, and is then, along with the covering of the mucous membrane adhering to it, converted into a dirty yellowish-brown eschar; which, shrinking together from all sides, gradually loosens itself at the margin, splits into various directions, breaks off from the deepest stratum of the submucous cellular tissue, and is carried off all at once, or by a repeated recurrence of the process; or the deposit degenerates into a loose, vascular, blood-streaked, bluish-red, luxuriant fungoid structure, which becomes a special source of profuse intestinal hemorrhages, and is generally thrown off piecemeal without scabbing.

"The mesenteric glands now reach their greatest volume, attaining the size of a pigeon's, and near the cœcal valve not unfrequently that of a hen's egg. Their substance is injected, tolerably consistent, but changes into a grayish-red, loose pulp, frequently presenting the appearance of evident extravasation of blood. It is then soft and elastic, or frequently gives rise to the sensation of fluctuation.

"In the fourth stage, after this deposition is thrown off, a loss of substance of the internal substance of the gut remains, which represents the proper typhus ulcer. It is unnecessary to go more into the detail or the appearance of these ulcers, which have been so frequently described and are so well known. At this stage the morbid product has been thrown off; the mesenteric glands diminish forthwith in volume by the removal of the infiltrated morbid matter, but they remain still somewhat larger than natural, and retain a reddish colour and their increased vascularity.

"When the typhus process localizes itself in the bronchial mucous membrane, the phenomenon presents a considerable difference. It appears always in the form of a diffused intense congestion, with dark-coloured swelling of the membrane, and copious secretion of a gelatinous, occasionally dark blood-streaked mucus, and is principally developed in the bronchial ramifications of the inferior lobe. It appears, therefore, in this situation to be always arrested in the stage of typhus congestion, and never comes to any manifest production of that morbid product in the tissue of the bronchial mucous membrane, which is produced in such abundance in the follicular apparatus of the intestinal mucous membrane in abdominal typhus. Thus in the primitive *broncho-typhus* the general affection is localized in the bronchial mucous membrane alone, to the exclusion of all the other mucous membranes, even that of the intestines, with which the typhus process in general has the greatest affinity. In many cases indeed the latter exhibits a recognizable, but always subordinate secondary affection of the follicles, in which the neighbouring mesenteric glands participate; and it would often be difficult to recognise the affection as typhus, were it not for the other attendant changes which mark the disease—viz. the peculiar engorgement of the spleen and congestion of the pyloric extremity of the stomach, the condition of the blood, and the typhus nature of the affection in general, but more especially the change in the bronchial glands. This change is the same as that which the mesenteric glands undergo in the *ilio-typhus*. They are swollen to the size of a pigeon's or hen's egg, reddish-blue, spongy, friable, soft, and infiltrated with the peculiar typhus product.

"This form is frequently combined with *pneumo-typhus* and typhus pleurisy, and is undoubtedly the pathological cause of the exanthematic contagious typhus, and most probably also of the Irish and North American typhus, which commonly run their course without abdominal affection.

"Sometimes the typhus affection of the lungs is better pronounced than that of the bronchia; but the former never occurs independently of the latter.

"Besides these primary seats of typhus deposition it may be deposited in many other organs as a secondary formation, giving rise to many complications, which, though very interesting in a practical point of view, would lead to too much detail were we to notice them here.

"Third. The typhus matter has, even at its origin, but much more in the transformations it undergoes, the greatest analogy with the cancerous degeneration, and more particularly with the medullary cancer.

"Fourth. The local typhus process is an inflammation, not however of a healthy character, but of a typhus character; and this unhealthiness is given, according to Rokitansky, by the peculiar diseased state of the blood. Lastly, Rokitansky is of opinion that when the local process is not met with in the mucous membrane of the intestines or in any other mucous membranes, it may have run its course in the blood without localizing itself at all."—"Rokitansky's *Handbuch der Pathologischen Anatomie*."

A perusal of the foregoing remarks shows that its post-mortem appearances resemble very closely the Parisian form of the disease. The Viennese patholo-

gists, however, consider it a dyscrastic affection, depending entirely upon the formation and subsequent changes of the peculiar substance called "typhus matter," similar in nature to medullary-sarcoma.—*Wilde's Austria*.

35. *Engorgement of the Uterus*.—In a pamphlet published by Dr. CLEMENT OLLIVIER, of Angers, on the treatment of prolapsus uteri, he speaks strongly against the use of differently shaped pessaries, which are employed indiscriminately, without paying attention to the cause of the prolapsus, which, according to Dr. Ollivier, is nothing more than an engorgement. Thence arise the symptoms which are constantly observed, and which are attributed to any cause other than the presence of a foreign body, and its contact with a painful and inflamed surface.

M. Ollivier considers that one of the most frequent causes of this affection in young girls, with whom it is very rare, is masturbation. He says, that one of the most frequent causes of chronic engorgement of the uterus in virgins, or women who do not have any communication with men, is masturbation, which, by gradually inducing disorder in the uterine functions, gives rise at first to spasm of the organ, which affects the secretion of the menstrua; on the other hand, this excitement, if frequently repeated, finally brings on a more or less intense sanguineous congestion, which gives rise to a kind of impermeability of the uterine parenchyma, caused by a slight inflammatory affection; then the dysmenorrhœa, at a later period, becoming habitual, induces amenorrhœa, which ultimately determines more dangerous diseases. Sterility is always an inevitable result, unless the diseased state of the uterus being arrested, allows those portions of the viscus which continue healthy to perform their functions; the catamenia may then reappear, but are almost always accompanied by uterine colics; the matrix may recover its powers of conception, but during gestation a period arrives when the uterus, not being able to enlarge freely, on account of the inflammatory action it has undergone before conception, reacts upon the product it contains, and almost always determines an abortion; in this way the pregnancies of women affected with morbid conditions of the uterus almost always terminate.

Masturbation, in causing a disordered condition of the entire uterus, produces more frequently an engorgement of the body of the organ rather than of the neck, whilst an exactly contrary condition obtains in women who have connection with men. In virgins the affection of the body of the uterus is more frequently found, that of the cervix uteri more rarely.

M. Ollivier mentions, among other causes of engorgement of the uterus, the irritation of the sexual organs by primary connection, a cause of irritation of the organ the more dangerous, that it has hitherto escaped the notice of medical men, either because they do not attach sufficient importance to it, or because women conceal from them the knowledge of their illness, notwithstanding the sufferings they endure.

The dysmenorrhœa, which almost always follows abortions, is the result of an inflammatory engorgement more or less considerable, and susceptible of cure; this engorgement is the cause of the sterility that follows miscarriages. The frequency of these inflammatory engorgements observed by the vulgar has rendered abortions more dangerous in their eyes than a delivery at the full period; when they take place during the first pregnancy, they are the more frequently to be attributed to a too great sensibility of the uterus, as yet unaccustomed to the sensations produced by coition. It is this sensibility which gives rise to consecutive inflammatory symptoms; under other circumstances this uterine sensibility causes the disorders which precede menstruation.

M. Ollivier attributes the sterility which occurs to most women in large towns, after their first and second labours, to a similar cause. The editors of the *Journal de Médecine et de Chirurgie Pratiques* observe, with respect to this opinion, that they agree with M. Ollivier, that the engorgement of the uterus may sometimes prevent conception, but that another cause for this pretended sterility in great towns, and Paris especially, must be sought for. Considerations of a different kind will explain the small number of children found in fami-

lies, whose pecuniary means are not in just relation with their daily expenses.—*Prov. Med. Journ.* Nov. 19, 1842.

SURGICAL PATHOLOGY AND THERAPEUTICS AND OPERATIVE SURGERY.

36. *Researches on the Decomposition and Disintegration of Phosphatic Vesical Calculi; and on the introduction of Chemical Decomponents into the living bladder.* By S. ELLIOTT HOSKINS.—The object of these researches was the discovery of some chemical agent, more energetic in its action on certain varieties of human calculi, and less irritating when injected into the bladder, than any of the fluids hitherto employed.

These indications not being fulfilled by dilute acids, or other solvents which act by the exertion of single elective affinity, the author investigated the effects of complex affinity in producing decomposition, and consequent disintegration of vesical calculi.

For this purpose an agent is required, the base of which should unite with the acid of the calculus, whilst the acid of the former should combine and form soluble salts with the base of the latter. The combined acids would thereby be set free in definite proportions, to be neutralized in their nascent state, and removed out of the sphere of action, before any stimulating effect could be executed on the animal tissue. These intentions the author considers as having been fulfilled by the employment of weak solutions of some of the vegetable super-salts of lead; such as the super-malate, saccharate, lactate, &c. The preparation, however, to which he gives the preference, is an acid-saccharate, or, as he calls it, a *nitro-saccharate of lead*.

This salt, whichever it may be, must be moistened with a few drops of acetic, or of its own proper acid, previous to solution in water, whereby alone, perfect transparency and activity are secured. He further states, that the decomposing liquid should not exceed in strength one grain of the salt to each fluidounce of water, as the decomposing effect is in an inverse ratio to its strength.

Having by experiments, which are fully detailed, ascertained the chemical effects of the above class of decomponents on calculous concretions out of the body, the author briefly alludes to the cases of three patients, in each of whom from four to eight ounces of these solutions had been repeatedly, for weeks together, introduced into the bladder, and retained in that organ without inconvenience, for the space of from 10 to 50 minutes.—*Proceedings of the Royal Society*, No. 56.

37. *Nitric Acid in Hemorrhoids.*—Dr. Houston has published an interesting communication in the March number of the *Dublin Journal of Medical Science*, in which he points out the peculiar forms of hemorrhoidal affections, to which he conceives the use of nitric acid as an escharotic is especially applicable. The external hemorrhoid, an offset from the dilated veins about the lower part of the rectum and anus, admitting, during the early period of its existence, of the ready ingress and egress of blood from those vessels, and afterwards being found as a shut sac, lined with a fine serous membrane, analogous to that forming the inner coats of the veins, and containing a small clot of blood, or else consisting of permanent tumours of greater or less magnitude, and of complex cellular texture, which, by forming adhesions to the mucous membrane or skin, and bursting there under circumstances of congestion, and also by becoming occasionally the seat of acute inflammation, may produce all the inconveniences of a “fit of the piles,” and must be regarded, as long as they continue to swell and bleed, as remaining in communication with the deeper varices from which they originally sprung, admits of removal by cutting instruments, although such operation may be attended with considerable and even profuse hemorrhage, controllable, however, by the ligature, styptics, or actual cautery. Accordingly, excision or

destruction with the red hot iron are unhesitatingly resorted to, whenever the inconveniences attendant on such affections require a radical removal for their cure.

The form of hemorrhoidal tumour, for the relief of which Dr. Houston advises the application of nitric acid, is that state of the mucous membrane to which the term vascular tumour, has been applied. He regards it as an affection of the mucous membrane and submucous tissues exclusively, having for its basis a knuckle or bunch of varicose veins, or else being a distinct and independent growth, the result of some other irritation in that region, but giving rise ultimately to the formation of a varicose condition of the diseased part. These tumours vary in size and number in different patients. They may be so numerous and so large as to cause, by their protrusion through the anus, a permanently widened state of that aperture, and an habitual prolapsus, not only of the diseased growth, but also of a portion of the bowel, or they may be very few in number, and very small in size. In the early period of the affection the tumours are so soft, compressible, and free from pain, as scarcely to be discoverable by the finger when introduced into the rectum, but when of long standing, and especially when they have been permitted to remain down for protracted periods at the water-closet, they acquire an increase of firmness and a tenderness which render them easily detectable by such manipulations, and give them a tangible and permanent character. The dragging and pressure to which they are subjected, in being pushed out and squeezed by the sphincter in defecation, likewise render them prominent, and give them often a pedunculated or polypus-like form. The surface of the tumour is either granulated like a strawberry, or of a villous aspect. It is of a red colour, and when protruded from the anus, bleeds from every pore, the blood discharged being always of an arterial red colour; if it has previously laid in the bowel for some time, it acquires a dark red colour, and even a gummy character.

There are two varieties of organic lesion known under the name of vascular tumour—the one called “erectile,” from its supposed resemblance to congenital affections of this class; the other, a congested, hypertrophied, and tender state of the membrane, the result of irritative or inflammatory action. The first form, which may be regarded as a sort of aneurism by anastomosis of the small vessels of the mucous membrane and submucous tissue exclusively, differs from ordinary *nævi* in not being necessarily congenital, but resembles them too much in its persistent tendency to increase in growth. It may be independent, from the first, of varices of the general veins about the anus. The second variety is of a chronic inflammatory nature, and may be best described by comparing it to the red, villous, tender, hemorrhagic surface exhibited by the mucous membrane of the eyelids, in old cases of chronic conjunctivitis. The destruction of the morbid growth is the only means of relief for both these varieties, as they neither have any disposition or power to undergo a spontaneous cure; and this Dr. Houston proposes to effect by the methodic application of nitric acid, instead of having recourse to the knife or ligature, the use of which, in very many cases, is neither necessary nor safe.

The properties of pure nitric acid, as an escharotic, point it out, in theory, as an agent fitted to take the place of these over severe remedies, in cases where a superficial destruction of the part to be removed is all that is required; and the application of it to practice has fully proved its efficiency as a substitute. This acid, at the density of 1,500, destroys on the instant the vitality of that part to which it is applied, by the production of a chemical decomposition of its solid and fluid elements. The depth of the slough, which is to follow, may be regulated in some degree by the quantity of acid laid on the part; and its extent, laterally, may be limited by instantly smearing the whole over with olive oil, which neutralizes its further corrosive powers, by combining and forming with it a new, but no longer escharotic compound. The separation of the slough, after the nitric acid, leaves a healthy suppurating surface, which contracts and heals over very quickly, the tender, tumid, bleeding surface being removed with little pain and no danger, while, by the cicatrization and consequent bracing up of the general mucous membrane which follow the removal of the relaxed and diseased

part, the other varices are supported and reduced in bulk, and ulcers, or even fissures, are healed. The resumption of the natural action of the bowels, and the general improvement in health which follow the application of the acid to a single vascular hemorrhoid, even where several are left behind, show an improvement in the state of the rectum generally, greater than could be supposed to arise from the simple abstraction of one from among the number. The relief, too, which the bowel gains by the removal of such a source of local irritation contributes, no doubt, in a prominent degree, to the production of the same good results.

The application of the acid may be made in the following manner:—Let the patient strain, as at the night-chair, so as to bring the tumours fully into view; and while they are so down, let him either lean over the back of a chair, or lie down in the bent posture on the side on which the disease exists, with the buttocks over the edge of the bed. The finger must not be passed into the rectum before the operation, as it will so compress the tumours as to diminish their bulk, and prevent the necessary steps being taken. When the patient is so placed, let a piece of wood, cut into the shape of a dressing case spatula, be dipped into the acid, and then, with as much of the acid adhering to it as it will carry without dripping, let it be rubbed on the tumour to the extent desired, its effect being shown by the part being changed to a grayish-white colour. One or more applications of the acid are needed, according to the depth of the slough required, after which the whole is to be smeared with olive oil. The prolapsed parts should then be pushed back within the sphincter, the patient put to bed, and an opiate administered. The pain is at first sharp and burning, but goes off in two or three hours, and does not return again in the same form. A general uneasiness about the anus on motion, together with a slight sense of heat, fullness, and throbbing, are felt for a few days, and there may be some slight feverishness. The symptoms following the application are usually so mild as not absolutely to require confinement to bed for more than a few hours, although, for many reasons, such confinement may often be desirable. On the third or fourth day a purgative draught should be administered, when the bowels will be found to yield to the medicine, generally without either pain or prolapsus of the rectum. The progress after this to healing is rapid, and free from any disagreeable symptoms.

This highly interesting and graphic communication is illustrated by cases.—*Prov. Med. Journ.*, April 15, 1843.

38. *Rupture of the Internal Jugular Vein into an Abscess.*—ALEXANDER KING, Esq. of Glasgow, records in the *Lond. and Edin. Monthly Journ. Med. Sci.*, (March, 1843,) an interesting example of this occurring in a boy four years of age. This child had been attacked with scarlet fever, followed by a diffused swelling on the right side of the neck, below the lobe of the ear, considerably impeding deglutition and respiration, and giving rise to an incessant tickling cough.

The swelling remained stationary for some days, but eventually evinced a tendency to suppurate, and after the application of a poultice it pointed and burst, leaving an opening into which a No. 8 catheter could be introduced. A quantity of pus was discharged; the swelling gradually subsided, and every thing seemed to proceed to a favourable termination for three days, when blood was observed by the nurse running down the patient's breast from underneath the dressings, and on removing them two jets were forcibly propelled.

A few minutes afterwards Mr. King saw the patient with Mr. Brown, the surgeon who had been previously in attendance. On removing the cloths which had been applied to arrest the hemorrhage, they found blood still flowing in a free stream from the opening already described; the walls of the abscess were very tense, about the size of a hen's egg, which, according to the mother's account, was larger than before the abscess first gave way. It occasioned considerable difficulty in breathing, and gave rise to occasional severe paroxysms of coughing, during which it became excessively firm and prominent.

Pressure on the carotid did not, in any manner, alter the state of the tumour, and pressure directly applied to its walls immediately brought on a fit of coughing, but did not appear to displace any of its contents. The pulse was extremely quick and feeble, and occasionally intermitting; the countenance was pale and blanched. Uncertain from what source the blood escaped, it was resolved to apply a compress and bandage to support its walls, and allow coagulation to take place, but it was found that when the bandages were applied tightly, the child's breathing was considerably impeded, and almost incessant coughing took place, so that it became necessary to apply them less accurately than was desirable.

During the afternoon, hemorrhage again occurred, and required Mr. Brown to apply additional compresses. At mid-day on Sunday, the tumour had increased in every direction, and more compresses were needed to suit the altered circumstances of the case.

At seven o'clock the same evening the tumour having still further increased, it was agreed to remove the compresses and bandages, so as to ascertain exactly the state of the tumour, and if it gave way, to restrain the hemorrhage by making pressure on the injured vessels with the finger, and afterwards secure it with a ligature.

When the bandages were partly removed, the child was seized with a violent paroxysm of coughing, during which the anterior wall gave way, to the extent of two square inches. A thin coagulum, about the size and thickness of a crown piece, was ejected, followed by an immense gush of blood.

Mr. King instantly introduced the first two fingers of his right hand into the opening, and surrounded the fingers and tumour with cloths, and very little blood was afterwards lost, although Mr. K's. fingers could not get either to the upper or lower orifices, in consequence of the lower part of the tumour being covered by the parotid gland, and sterno-cleido-mastoid muscle.

When Mr. K's. fingers were first pressed into the abscess, he felt blood flow freely downwards from above, and propelled upwards with great force, during each forcible expiration. A state of syncope followed in a few seconds, and the child expired shortly afterwards.

Dissection, ten hours after death.—The swelling had entirely disappeared, and the skin, which had previously covered the tumour, had contracted in every direction, so that it could hardly be conceived that so much distension had ever existed.

On dividing the integuments, from the lobe of the ear to the middle of the neck, it was found that the tumour, to a certain extent, had been divided into two sacs, which communicated very freely. The one extended below the digastric muscle and parotid gland to the base of the skull; the other having the parotid gland for its posterior wall, the sterno-mastoid muscle for its external, the platysma fasciæ and skin for its anterior. On cutting through the substance of the parotid, which was sound and healthy, and the posterior belly of the digastric muscle, a very distinct view of the source of the hemorrhage was obtained. Nine-tenths of an inch of the external wall of the *internal jugular vein*, commencing two lines below the base of the skull, and extending downwards, was completely removed, as if by a sharp scalpel. The internal wall, and even the margins of the opening, were perfectly healthy, and of the normal pearly white colour. The common carotid, at its division, was exposed by removing a little healthy cellular structure, and showed no appearance of disease. The walls of the abscess were examined in every direction, and found to be healthy, and an incision, two lines in depth at any point, displayed the surrounding structures in a natural state.

Permission could not be obtained to make further examination.

Mr. K. does not consider "that the child's life could have been saved, even if we had possessed the fore-knowledge of the state of parts, which were displayed on dissection.

"A ligature could not have been applied between the laceration and the base of the skull, even granting that the internal jugular vein could be tied with impunity.

"On our first visit, the tumour had exactly the appearance of a neglected abscess. The distension and colour of the integuments would have induced us at once to give relief by an incision, had not the small opening, referred to, existed, and had such a mistake been committed, I do not think the hemorrhage could have been even temporarily arrested, in consequence of the attenuated condition of the walls. The case presents a striking proof of the danger likely to occur, from rashly opening abscesses in the vicinity of important vessels; and, in the locality of this tumour, it is feared that strumous abscesses are every day laid open, after a very cursory examination."

Prof. Fergusson relates a similar case, in which the child also died from hemorrhage, and on dissection, the hemorrhage was found to have taken place from an ulcerated opening in the lingual artery, near its origin from the carotid.

39. *Pathology of fracture of neck of the Femur.*—Prof. HARGRAVE exhibited to the Surgical Society, Ireland, at their meeting on the 8th of April last, a specimen of ununited fracture of the neck of the femur, which he found in the dissecting rooms of the College school. It was taken from a male, aged between sixty and seventy, and occurred in the left thigh; the limb was from two to three inches shorter than the sound one, the motions of which were very free: the capsule of the joint was very thick for its whole extent; the two obturator muscles were very strong and attached to their usual parts; their augmented strength was evidently for the purpose of preventing the external part of the fracture being carried during progression and standing, upwards and outwards. This is the second example Professor H. met with of the value of these muscles in a nearly similar pathological condition of the neck of the femur. On opening the capsule posteriorly, not a vestige of the neck of the femur remained; the head of the bone was closely confined in the cotyloid cavity by the lig. teres, which was shorter than usual, also much stronger; the external surface of the head of the femur towards the inferior part presented a small porcellaneous deposit, and from the centre of the external surface a strong short band of fibrous structure passed downwards and outwards to be attached to the internal surface of the capsule; besides this strong band, two smaller ones extended from the edge of the head of the femur to corresponding parts of the capsular ligament: the articular aspect of the head of the bone presented a slightly nodulated appearance, which was deprived of cartilage, and covered by a thin lamina of the ivory deposit. This portion of the bone, from the nature of its fibrous attachments, was tolerably firmly fixed in its articular cavity. That part of the femur corresponding to the site of the external end of the neck of the bone was irregular in its aspect, and about one-third of it covered by the porcellaneous deposit; in the movements of the limb it must have played upon a part of the head of the bone, chiefly where it was covered by the kind of deposit already mentioned. Professor H. considered this a rare specimen of the ununited fracture of this part of the femur, as there is no specimen in the museums of the College similar to it; there was one in which a strong fibrous band extended from the head of the bone to the near branch of the neck still existing. To sum up the peculiarities of this morbid specimen, not a vestige of the neck of the bone remained; the head of it was confined closely in its cavity by the ligamentum teres, and the fibrous bands extending from the external surface of the head to the capsule. Professor Hargrave expressed an opinion, that in future such extreme examples of the absorption of the neck of the femur would be very rare, in consequence of the improved plans of treatment now pursued for this kind of fracture, which, if followed up with care, would end in osseous union of it, or certainly union *of so firm a character* as will continue to the patient the almost perfect use of the limb, and scarcely any deformity. Three, if not four, examples of this kind of fracture have been treated in the city of Dublin Hospital during the last four years with the most perfect success.—*Dublin Medical Press*, April 19, 1843.

40. *Glossitis in an Infant.*—Surgeon KOETTL relates a case of glossitis in an infant only nine days old. The affection having resisted the application of

leeches to the sides of the windpipe and other treatment, the child's mouth was opened and a longitudinal incision made along the dorsum of the tongue. This was followed by free bleeding, and in two hours the tongue was reduced to half its former size. The patient recovered.—*Oester Med. Wochens.* No. 47, 1842.

41. *Hunter's Operation for Aneurism.*—Mr. B. Phillips has collected from various works, 359 cases of aneurism treated by Hunter's method, of which 277 were cured.

	Cases.	Cures.
Subclavian, - - - -	80	46
External iliac, - - - -	79	62
Carotid, - - - -	74	59
Femoral, - - - -	113	77
Humeral, - - - -	30	24
Various, - - - -	13	9
	359	277

—*Arnott's Hunterian Oration*, 1843.

42. *Aneurism.*—Dr. J. ADAIR LAWRIE, Prof. Surgery, Anderson's University, Glasgow, has examined the records of the Glasgow Infirmary, and finds that from the opening of the hospital in 1794, to 1st Jan. 1842, a period of forty-six years, there have been 23 operations "of aneurism for disease." Of these 23 cases he has been able to procure more or less accurate details of 17, from which he has constructed the following table:—

"1. *Sex.*—Of the 17, 13 were males, and 4 females, being in the proportion of $4\frac{1}{3}$ to 1; giving a large proportion of females. Dr. Hodgson makes the proportion one in thirty-four. Dr. Hope says that, in external aneurisms, it has not exceeded in his experience 'one in fifteen to twenty.'

"2. *Age.*—Excluding the two congenital cases, the ages range from 18 the youngest, to 65 the oldest. There is one under 20; two between 20 and 29; eight between 29 and 40; three between 39 and 50; one above 60. These ages are younger than is generally supposed; the explanation is to be found in the causes of the disease, or at least of the cases which form the table.

"3. *Causes.*—Of the 15 cases not congenital, eight were attributed to violence, either in the form of blows on the artery, as in cases 5 and 13, or from exertion or sprains: this combined with the ages and sex would show that external aneurisms are likely to be most frequently met with in those in the prime of life, whose occupations are fatiguing and laborious, and not in those whose arteries are diseased by age.

"4. *Vessels affected.*—Of the 17 cases, 3 occurred in the vessels of the head, neck, and upper extremities, (viz. 1 temporal; 1 sub-clavian; 1 brachial and vessels of forearm); 14 in those of the lower extremity; viz. 1 profunda femoris; 2 femoral, and 11 popliteal; showing a great disproportion between disease of the vessels of the upper part of the body requiring, or admitting of operation, and those of the lower. Of the lower vessels the popliteal is by much the most frequent cause of operation. This is doubtless attributable to the position of this artery relatively to the knee-joint. Something may also be owing to its being imbedded in cellular tissue, at some depth under the fascia, and but loosely supported by the muscles. Of 10 of the popliteal aneurisms in which the limb is stated, 7 were in the left, and 3 in the right. This may have been accidental; but so far as it goes it may appear an objection to the opinion, that the cause of these aneurisms is rather to be sought for in the effect of violence than in disease in the vessels, inasmuch as the right knee is fully as much exposed to injury and over-exertion as the left. It may however admit of explanation, in what I believe to be very frequently the case, that the ligaments of the left knee are more lax than those of the right, allowing the joint to be thrown unduly backwards, and thereby causing a greater strain on the parts placed posterior to it.

No.	Sex.	Age.	Occupation.	Cause.	Vessel diseased.	Vessel tied.	Result.	Remarks—Cause of Death, &c.
1	Female	23	—	Congenital	Cirsoid aneurism of temporal	Common carotid	Cured	
2	Male	65	Weaver	Unknown	Subclavian	Subclavian, close to scalenus.	Died	Died comatose 68 hours after operation; serous cerebral effusion.
3	Ditto.	21	Bleacher	Congenital	Axillary, cirsoid aneurism	Brachial and ulnar.	Cured	
4	Female	18	—	—	Profunda femoris	External iliac	Died	Inflammation of cellular tissue in iliac region; peritonitis.
5	Male	30	Fletcher	Kick from an ox	Femoral	Femoral, near Poupart's ligament.	Cured	
6	Ditto.	45	Weaver	—	Left femoral.	Femoral; two ligatures; vessel cut between them.	Not stated	Disease of five months' duration.
7	Ditto.	30	Blacksmith	Sprain	Left popliteal	Ditto. Ditto.	Cured	Femoral of right side tied seven months previously.
8	Ditto.	31	Soldier	Fatigue in marching	Right popliteal	Femoral. Amputation	Cured	Gangrene; amputation; ten months' continuance.
9	Ditto.	30	Sailor	Sprain	Right popliteal	Ditto. Ditto.	Died	Gangrene; hæmorrhage from wound of operation; amputation; died in three hours.
10	Ditto.	30	Labourer	Unknown	Popliteal	Femoral	Cured	Ligature came away on ninth day.
11	Female	22	—	Uncertain	Left popliteal	Femoral. Two ligatures.	—	Five months' duration.
12	Male	36	Weaver	Fatigue in walking	Left popliteal	Femoral. Amputation	Died	Gangrene on 9th day; amputation on 34th day; died 6th day after amputation; ligature came off on 22d day.
13	Ditto.	42	Farm servant	Kick in ham	Left popliteal	Femoral	Cured	On 19th day, hæmorrhage from wound of operation arrested by pressure; ligature came off on 36th day.
14	Ditto.	42	Sailor	Unknown	Left popliteal	Femoral	Cured	Ligature came away on 12th day.
15	Female	25	—	Fatigue	Left popliteal	Femoral	Cured	" " " 16th day.
16	Male	32	Street porter	Fall	Left popliteal	Femoral	Cured	" " " 15th day.
17	Ditto.	31	Fletcher.	Fall	Right popliteal	Femoral	Cured	" " " 16th day.

No.	Sex.	Age.	Occupation.	Cause.	Vessel injured.	Vessel tied.	Result.	Remarks, &c.
18	Male	50	Old soldier	Ulcer at angle of jaw. V. S.	External carotid?	Common carotid	Cured	Hemorrhage from original wound 45 days after the operation; restrained by pressure. Ligature came away on seventh day.
19	Ditto	25	Carrier		Brachial	Brachial; Hunterian operation	Ditto	
20	Female	20	Spinner	Ditto	Ditto	Brachial; old operation	Ditto	Attempt at cure with button forceps.
21	Ditto	33	Weaver	Ditto	Ditto	Brachial; Hunterian operation	Ditto	Circumscribed; ligature came off on 13th day.
22	Ditto	28	Servant	Ditto	Ditto	Brachial; Hunterian operation.	Died	Erysipelas and abscess of arm; sac opened; discharged pus and clots, ligature came off on 14th day.
23	Male	30	Labourer	Severe lacerated wound of arm V. S.	Ditto	Axillary; amputation	Cured	Sloughing and hemorrhage from sac; amputation at shoulder-joint.
24	Ditto	40	Ditto		Ditto	Brachial; Hunterian operation.	Cured	Hemorrhage from wound of operation on 20th day; fresh ligature.

"5. *Mortality.*—Of the 17 cases, 4 were fatal; being deaths to recoveries as 1 to 4½; of these 17, the results of two are uncertain, and in one the operation failed, the patient's life having been saved by amputation; consequently in 5 cases out of 15 the operation failed, the proportion being as 1 to 3—a much greater mortality than I expected. The causes of death were, 1st, serous effusion into the cerebral cavities, in the case of ligature of the subclavian (No. 2). This was doubtless owing to the increased quantity of blood transmitted along the carotids, and suggests in cases of this kind, especially when the patient is advanced in years, the propriety of venesection before and after the operation; shaving the head, keeping it high and cold, and using those means which experience has shown to be best adapted for lessening the quantity of blood in circulation through the brain. 2d. Case 4, ligature of the external iliac, died of inflammation of the tissues in the neighbourhood of the wound of the operation. 3d. Gangrene occurred in three cases (8, 9, 12) of ligature of the femoral for aneurism of the popliteal. In all amputation was performed, two died and one recovered."

Dr. Lawrie also gives the preceding table of seven cases of Traumatic Aneurism.

Of these 7 cases one was in the carotid and six in the brachial. Of the latter, 5 followed venesection, and one an injury; 6 recovered, and one died; but in one the patient was saved by amputation.

"In the 24 cases given in the above tables, secondary hemorrhage took place in 5 (more than 1 in 5); in three from the wound of the operation, in one from the bursting of the sac, and in one from the original wound. In two amputation was performed—one died, and one recovered. In one the wound was reopened and fresh ligatures applied with success. In two pressure was trusted to with success. So far as these statistics go, they teach us to give pressure, as firm as safety will allow, one fair trial, that failing, to secure the vessel, as above advised. Amputation can seldom be justified for uncomplicated hemorrhage, and should only be performed when all other means have been fairly tried and have failed."—*Lond. Med. Gaz.*, Jan. and Feb., 1843.

43. *Osteo-sarcoma of Thigh-bone.—Amputation.*—Two cases of this have been communicated to the *Royal Medico-Chirurgical Society* by R. A. FROGLY, Esq. The first is that of a female, aged twenty-six, who had a tumour of the thigh, which measured, in its greatest diameter, thirty-five inches and a half, and reached from within an inch of the trochanter to the knee-joint. It began in the summer of 1829 with a pain in the condyle of the femur, and in May of the following year a tumour had formed, of the size of the half-closed hand. It continued gradually to enlarge, without pain or discoloration of the skin, or materially impeding the motions of the limb, till March, 1843, when the limb was amputated. Owing to the close proximity of the upper part of the tumour to Poupart's ligament, it was anticipated that it might be necessary to disarticulate the bone at the hip-joint; but in the course of the operation, when the two lateral flaps had been made, the femur was found in a healthy condition below the lesser trochanter, and it was sawn through at this point. Mr. Lane, who assisted, commanded the blood-vessels by pressure with his fingers on the external iliac artery, so that scarcely any arterial hæmorrhage took place. What little occurred was immediately arrested by another assistant grasping the flap until as many as ten ligatures were applied. After the operation the patient caused much alarm by falling into a faint, in which she gasped as in *articulo mortis*; but she was soon restored from this condition. The stump healed favourably, and there has been no return of the morbid growth. A longitudinal section having been made of the thigh-bone and tumour, it was seen to consist chiefly of a whitish, elastic, hard tissue, resembling cartilage, but rather more transparent. There was very little deposit of osseous structure in it, and the tumour appeared more connected with the periosteum than with the bone itself, which could be readily distinguished in the morbid mass from preserving its sound condition. Numerous cysts, communicating with each other and with a large central cavity, were developed in the tumour, and these contained several pints of a yellow, tenacious, honey-like fluid.

The second case is that of a married lady, aged thirty-seven, who had, also, a tumour of the thigh. The swelling was first observed eleven years ago, as a hard lump, about the size of half a walnut, situated on the inner condyle of the femur. When seen by Mr. Frogly, five or six years after its commencement, it had not increased perceptibly in size; but in five years more it had acquired considerable magnitude, and had extended up the thigh. Finding that it made more rapid progress, so that it measured, at its largest part, twenty inches and a half in circumference, while the thickness of the limb below was only twelve inches, she consented to undergo amputation, which was performed in August, 1848, and the stump healed by the first intention. Upon making a section of the thigh-bone and tumour it was remarked that the morbid growth, although smaller than in the preceding case, presented the identical appearances both in position and structure which have been described in this case.—*Prov. Med. Jour.* April 22, 1843.

44. *Treatment of Aneurism by the method of Brasdor.*—The following are the conclusions of a paper read by M. DIDAY to the French Academy of Medicine, September 13, 1842.

1st, In every aneurism of the innominate, it is necessary to tie both the carotid and the subclavian; in those cases where it may have appeared that success has followed the ligature of one of these branches, it has been found that the innominate was either not involved, or that the cure was not complete.

2d, The ligature of both branches at the same time is assuredly the most active of all methods; the dangers of the operation have been much exaggerated, for analogy and experience ever prove, that the circulation is still carried on in the upper extremity, after both branches have been tied. Most fear is to be apprehended from hæmorrhage and inflammation of the sac. In the present state of the science, M. D. would not disapprove of a surgeon performing this operation, but he would not recommend it himself, even although it has been successfully done.

3d, When both branches of the innominata are to be tied, and are to be obliterated, the surgeon ought to begin the treatment by throwing a ligature round the patent one.

4th, But in this case, it is necessary to distinguish real from apparent obliteration of the vessel, caused by pressure of the aneurism on its origin. This distinction is important, as our treatment is different. Experience has shown in three cases, that when in one branch, where suspension of the circulation only exists, and the other branch has been tied, the same good results do not follow as when there is real obliteration, but that, on the contrary, the operation has some serious disadvantages.

5th, When before the operation both branches appear equally permeable, we must endeavour, by observing in what direction the tumour is advancing, when the pulsations appear strongest, and by alternate pressure, first on the one and then on the other, to decide which of the two ought to be tied first. In cases of doubt, we ought to commence with the carotid. Experience has proved this; besides, it is established statistically, that the ligature of the carotid is an operation just half as dangerous as that of the subclavian or axillary arteries.

6th, As a general rule, the second ligature should be applied as soon as the effects of the first have ceased, *i. e.* when the tumour is no longer diminishing; if the pulsations reappear after they had suspended, we ought to hasten the operation as much as possible, and if the carotid has been the first tied, it should not be delayed beyond the time, when the fear arising from imperfect circulation has been removed. This fear will be found illusory when we consider the numerous facts which prove the great rapidity of the re-establishment of the circulation after ligature of the carotid.

7th, When the carotid has been tied after the method of Brasdor, hæmorrhage has been only observed twice from the wound. In both cases it was from the upper part of the vessel, and in both it was attributed to the ligature having been placed too near the bifurcation of that vessel.

8th, Alterations in the coats of the artery appear to be equally common in the upper and in the lower part of the primitive carotid. We ought then, *cæteris paribus*, to place the ligature as far as possible from the bifurcation of that vessel, as, towards that point, there is equal chance of finding the coats diseased as lower down, besides having less risk of hæmorrhage from the upper extremity.
—*Lond. & Edin. Month. Journ. Med. Sci.*, January, 1843.

45. *Structure of Neuromatous Tumours in stumps.*—Dr. BENNETT exhibited to the Anatomical Society of Edinburgh, February 8, 1843, a neuromatous tumour about the size of a hazel nut, which had been removed from the stump of a patient of his by Mr. Spence. It had caused the individual great agony, which was entirely removed by the operation. On making a section through the tumour, it was found to be composed of a dense white substance, of cartilaginous consistence. Examined microscopically it was seen to be made up of numerous bands of fibres, enclosing an amorphous structure. The bands were composed of from twenty to forty filaments crossing and recrossing each other, and terminating in loops. This filamentous structure differed in its arrangement from any other which Dr. Bennett had hitherto examined. About three-eighths of an inch of the nerve, to which the tumour was attached, had been removed with it, and this presented the same structure as that of the tumour. No remains of nervous tubes could anywhere be detected.

Mr. Spence considered that these tumours, on the ends of divided nerves, were not necessarily productive of pain in the stump. They existed on the cut extremities of nerves in every case, and only give rise to pain when exposed to pressure, when partially implicated in a firm cicatrix, or when thinly covered and thus exposed to the effects of atmospheric changes, or other external causes. When thickly covered by the soft parts it was seldom they gave rise to painful symptoms, though of large size. Mr. Spence, in support of these statements, exhibited a preparation of the nerves from a stump of the leg, where, although a neuromatous tumour existed on every nerve, the only one which had ever

given rise to pain had been situated between the cicatrix and end of the fibula. He also showed several drawings of stumps which he had dissected, where the neuromata were very large, and yet had occasioned no pain.—*Lond. & Edin. Month. Journ. of Med. Sci.*, April, 1843.

46. *The Starch Apparatus for Fractures.*—M. SEUTIN, the inventor of the starch apparatus for the treatment of fractures, has recently visited Dublin, where he has explained and demonstrated the application of his bandage. One great objection had been, that the apparatus, when once put on, remained a hard case round the limb, allowing no room for the necessary degree of tumefaction, and consequently endangering the safety of the member by inducing gangrene; and that, as the parts were hid from view, no timely warning was afforded of such accidents. As the starch bandage was used, there was much truth in this objection; as M. Sentin now uses it, the occurrence of such dangers is obviated. He first applied a calico roller, moderately firm, round the leg; no starch was put on the inside of this bandage, as it would stick in the hairs, and prove unpleasant to the skin when it hardened. After it was applied some starch was smeared along its surface; wherever pressure was wished to be avoided pledgets of soft lint were put; a soft pasteboard splint, a little starched on the inside, was then placed on each side of the leg, and then one behind, the part about the heel and the hollow of the tendo Achillis being well stuffed with lint; a pasteboard splint was also then put in front. These were secured by a bandage smeared with starch, the end of the bandage being turned down and stuck in front, so as to be easily found. More starched bandage was applied, till the whole was a firm and smooth case. This should be left for twenty-four hours: when it has become quite dry, it is then slit down along the whole front of the outside, in the space between the tibia and fibula, down to the end of the foot. When the sides of this opening are held aside, the state of the limb can be examined. If it is found to press too much on any part, a little lint can be inserted, so as to raise the apparatus from the place pressed on; should it be desirable, any part of it covering a wound, &c. can be cut away, to allow the proper dressings to be applied, and the discharge to be removed.

Long bandages are preferred wherever it is requisite to establish a regular compression, and that the lifting up of the injured part cannot entail inconvenience to the patient, sharp pain, derangement in the coaptation, &c. Short bandages are reserved for contrary cases; they are disposed generally in three planes; it is between the layer in contact with the skin and the middle layer that the pasteboard splints are generally placed; short bandages are especially employed in lesions of the pelvic extremity. The length or breadth of the bandages is proportioned to the part which ought to be covered with them. Folds should be repeated as seldom as possible, and never on bony eminences or excrescences, which should be defended by layers of wadding, lint, or some other such material, besides the bandage.

It is important to leave uncovered the ends of the fingers or toes, whose variations of colour and of temperature furnish a sufficiently just measure of the analogous changes of the other parts of the limb covered by the bandage.

The compression exerted by this apparatus ought never to reach to that degree of violent constriction which practitioners, as little familiarized with M. Sentin's method as with the general principles of compression, have believed to be necessary for the resolution or prevention of inflammation. Compression, as understood by M. Sentin, ought to stop at a gentle methodical pressure, sufficient to moderate the afflux of blood, but not to stop it—a pressure which, in many circumstances, at the instant of its application, is only retentive, and which never acts on the soft parts, so as to be able to induce mortification in their tissues. The pressure should always be made to act from the extremities to the centre as evenly as possible, care being taken to avoid its immediate action on bony or tendinous prominences, excrescences, &c.

The starch apparatus dries in the course of from thirty to forty hours after its application, but its desiccation may be aided by the employment of artificial

heat if needed, which, however, is better avoided if possible. Unless the patient complain of pain, or much uneasiness in the injured limb, or the surgeon entertain fears on the state of the soft parts, it would be as well to defer the section of the bandage to the second or fourth day, when, if the apparatus fulfil the views proposed, it is made secure again with a starched bandage; if it exercise too much pressure, the edges must be separated, the interval being filled up with a little softened pasteboard; the exterior surface is then to be smeared with starch, and the apparatus surrounded by a starched bandage, very little compressed. Folds and plaits that press the skin irregularly are to be removed; the pieces that exercise injurious local pressure are to be wet slightly with water; pieces of lint are to be inserted where necessary, and the whole to be surrounded by the starch bandage, care being taken to make a daily inspection to see that all is right. If the apparatus appear defective in any particular, it should be removed, having been previously wet with tepid water, and replaced by another, less objectionable.—*Dublin Journ. Med. Sci.*, Nov. 1842.

47. *Rare Cases of Strangulated Hernia*.—M. GERDY has met with two very curious cases of strangulated hernia. In the first the constriction took place in a narrow canal of seven or eight centimetres long, which existed along the course of the superior strait of the pelvis, and of the external iliac artery. The patient died after the operation. In the second, the hernia occurred on a level with the anterior superior spinous process of the ilium; it lay betwixt the external and internal oblique muscles, and was complicated by the presence of the testes, the adhesions of which to parts around, had, in fact, opposed the farther downward passage of the small intestines, which had therefore mounted above the iliac spine.—*L. & E. M. Journ. Med. Sci.*, May, 1843, from *L'Expérience*, Jan. 12, 1843.

48. *Vesico-Vaginal Fistula*.—The *Archives Générales de Médecine*, for March, contain a very lengthy but interesting communication on the treatment of vesico-vaginal fistula, with the detail of two successful cases, by M. Lallemand, of Montpellier. The first case is that of a lady, twenty-three years of age, labouring under this affliction from the use of instruments in her first labour. The fistula was situated about three and a half inches from the orifice of the urethra; its transverse diameter was about an inch and a half, the two lips being separated to the extent of half an inch, and the posterior one masked by a fold of the vesical mucous membrane an inch long, one third of an inch high, and one fourth of an inch thick. The greater part of the circumference of the vagina behind the fistula was blocked up and narrowed by semicircular, thick, and hard cicatrices, into which the first phalanx of the index finger could not be passed, whilst the index and medius fingers together could be passed into the bladder through the fistula.

The first step directed by M. Lallemand under these distressing circumstances, was the dilatation of the vagina by large bougies, and afterwards by conical gum elastic cylinders, which unfortunately proved, on the patient's return to Montpellier in two months' time, to have been misapplied, inasmuch as the fistula was much increased in size, and the vaginal contraction in the same state as previously. M. Lallemand, after having then for a few days attempted to dilate the vaginal passage, on the 22d of February, 1836, applied the actual cautery on the flap of vesical mucous membrane which blocked up the posterior lip of the fistula, so as completely to destroy it. The sloughs separated in a few days, and the anterior lip having been brought into the same state by the application of the nitrate of silver, the entire edges of the fistula being fresh and bleeding, the hooked catheter (*sonde-airigne*) was immediately applied, a task of some difficulty on account of the depth of the fistula and the impossibility of introducing the finger beyond the contraction of the vagina: the vesico-vaginal parietes consequently not being supported, were pierced by the hooks with difficulty, and it could not be ascertained whether they were at a proper distance from the posterior lip of the fistula. If they had been too near, the soft parts would have been torn; and if too far, the cervix uteri might have been

injured. Guided, however, by the marks engraven on the stem of the instrument, the hooks were confidently forced in, and the instrument being slowly drawn, the fistula could be felt with the index of the other hand to be gradually closing; the movable plate was then wrapped up with lint, and the spring worked until the coaptation was complete. The instrument was then perfectly fixed by its own mechanism. It was withdrawn five days afterwards, and a common elastic catheter passed for a few days, after which the patient made water as usual. Four weeks after the operation, the parts were examined with the speculum, when a transverse band of a bright red colour, half a line wide and more than an inch long, was seen on a level with the contracted part of the vagina, the cicatrices of which prevented the extremities of the band being seen. The patient, being now able to retain her water for three or four hours, left Montpellier, to which she returned in the following spring, complaining of fluor albus, the discharge being very liquid. Lallemand at first thought the cicatrix had given way in some part, but this was proved not to be the case by a very careful exploration; there were found two small and tortuous canals on either side of it; the cauterization of which arrested the discharge. The bladder was kept empty for several days after the application of the actual cautery. The patient recovered perfectly, and the catamenia, which had been absent from the time after confinement, soon reappeared, and resumed their natural course.

In the second case, the vesico-vaginal fistula, which was also caused by the use of instruments, was situated about three inches posterior to the meatus urinarius, having a transverse diameter of nearly one inch and a half, and nearly an inch in the antero-posterior direction. The vagina was contracted by two thick cicatrices, but not sufficiently to prevent the passage of the finger beyond the posterior lip of the fistula. The right lower extremity was partially paralytic and contracted. The operation was performed as in the preceding case, the edges of the abnormal communication between the bladder and vagina having been freshened by the actual cautery and the subsequent removal of the sloughs, the parts were brought into coaptation by the hooks of the sonde-airigne, which was kept in for several days, and then replaced by a common elastic catheter. The state of the parts was examined a few weeks afterwards with the aid of the speculum, when the fistula was found to be closed, except in the centre, where there was an interval of a line in extent, which soon healed under the application of the nitrate of silver. The patient was dismissed, cured of her infirmity, three months after the performance of the operation.

The proceeding thus advised by Lallemand requires much care in order not to involve any part of the uterus, for a case is recorded by him, in which the hooks having been applied to the part of the bladder covering the womb, and in all probability into the womb itself, pain in the pelvis, speedily extending over the whole abdomen, set in, and notwithstanding the removal of the instrument, symptoms of gastro-enteritis and hepatitis with delirium became manifest, and although the patient for a time survived the attack, she gradually sunk into a state of exhaustion and inarasmus, with disturbance of the intellectual functions, and died in the course of the ensuing year. On examination of the body, traces of chronic peritonitis, disease of the liver, and effusion of serum within the cranium were discovered; although the womb was not found to be the seat of organic changes, M. Lallemand is convinced from the symptoms, that it was the source of the complicated diseases which destroyed his patient, and in this opinion he was confirmed by the results of another case which terminated fatally in eight days, the autopsy presenting similar appearances to those in the preceding case. In those cases, therefore, where the fistula is situated on a level with the cervix uteri, it is advisable to attempt a cure only by means of cauterization made with great care, and renewed at long intervals.

The employment of the *sonde-airigne* is not adapted for those cases of fistula where the opening is so exceedingly small that it can be closed by the swelling induced by the cauterization of the parts, or where the fistula is of such a size as to occupy the larger part of the vesico-vaginal septum, so that the edges of the fistula could not be brought into contact, or finally where a healthy charac-

ter of inflammation cannot be excited so as to ensure reunion. As a general rule, the chances of success are in the inverse proportion to the duration of the infirmity, because, according to the length of time the diseased state has existed is the degree of irritation and unhealthy inflammation about the parts, and the disordered condition of the general health, consequently the less likelihood is there of a pure and proper character of inflammatory action setting in, and the consequent formation of a firm cicatrix.

It is a task of exceeding difficulty to freshen the entire circumference of the fistula with cutting instruments; some points will escape division, or not be cut with uniformity, while at the same time if a cutting instrument be used effectually, a greater portion of the soft parts is removed, and the opening consequently made larger, without any special advantage, than when cauterization has had recourse to. Swelling of the adjacent part is not occasioned, as when the latter process is employed, the tumefaction being of service in rendering the coaptation more easy and more complete. The actual cautery should be had recourse to whenever it is requisite to destroy certain parts and to remove inequalities, especially when the opening is very large, or masked and sinuous, so that its course cannot be followed with a stick of nitrate of silver. The instrument should be of an olivary shape, not more than a line in diameter in the most enlarged part, and the stem still thinner. Probes of different sizes and shapes should be used for the tortuous canals. The inferior paries of the vagina must be protected from the influence of the cautery by the *demi-speculum*, and the upper part by a large spatula made with an elbow, that there be not any shadow cast by the hand of the assistant. The spatula will serve at the same time to bring the diseased parts into view.

The *sonde-airigne* is preferable to the suture in every case where the fistula is transverse, or can be brought into that form, which can almost always be done when the operation is possible. Out of twenty-one cases, M. Lallemand has only met with one oblique and irregular fistula, the reunion of which could not be effected from behind forwards. If the sutures are not sufficiently tightened, or become relaxed by the slow section of the parts engaged, the lips of the fistula gape, and the operation must be repeated, for there is not any means of increasing the compression. It is not so with the *sonde-airigne*, as the pressure with it can be increased or decreased at pleasure, nor can the edges of the wound get out of place, they being kept *in situ* by the hooks of the instrument, which, at the same time, retain the instrument itself in a state of immobility. It has been employed by M. Lallemand in fifteen cases, and he has been successful with it in nine, not always at the first operation, but at the utmost in two, but the most frequently the application of caustic has been sufficient to effect a cure afterwards.—*Prov. Med. Journ.* April 8, 1843.

49. *Cancer of the Mamma: statistics of the disease: treatment by compresses of hydriodate of potass, &c.*—M. TANCHOU read to the French Academy of Sciences on the 14th November last, a communication in relation to the prevention of the cancerous degeneration. He supposes that diseases of the mamma increase in proportion as civilization advances; and he has attempted to show this by a series of tables. In the department of the Seine, in 1830, 668 died from cancer: in 1840, 889, being an increase of from 1.96 to 2.40 per cent. on the total mortality during that period of 382,851 individuals. In Paris alone, in 1830, 595 fell victims to this disease; while in 1840 there were 779, giving a mortality of 2.54 per cent. on the deaths; while in the rest of the department, the deaths were—in 1830, 73; in 1840, 110; or 1.63 of the total number. M. Tanchou condemns excision, as well as the employment of caustic as a substitute for this treatment. He recommends several methods, and among others, that by compression: the compresses to be formed of the hydriodate of potass, five parts; sponge in powder, ten parts; the hydrochlorate of ammonia, forty parts; and the hydrochlorate of sodium, ten parts; or a powder composed of powdered sponge, twenty parts; nitrate of potass, and Florentine iris, of each one part. Thirty people have been treated in this way, all of whom appeared to have derived

considerable benefit from it. In some, the gland has been entirely removed, but in the greater number, remains of it have been visible afterwards. In none, was the knife deemed necessary, although in some of the cases an operation had been proposed before the commencement of M. T.'s treatment.—*Lond. & Edin. Month. Journ. Med. Sci.*, January, 1843.

50. *Imperfect Luxation of the Radius*.—Dr. GOYRAND, of Aix, has published, in the *Annales de la Chirurgie Française et Étrangère*, two instances of a displacement of the head of the radius, not described in surgical works, but of frequent occurrence among children.

On the 9th of September a little girl, three years old, while walking on an unequal pavement, was nearly falling, when her mother caught her, and kept her up by the right hand. The child immediately screamed out, and could not use the limb; she was brought directly to M. Goyrand. The forearm was flexed to one-fourth its full extent, the hand was in pronation, and dependent, the limb motionless, and there was neither deformity nor swelling at the elbow. Any attempt to bring the hand into supination caused the child to scream. M. Goyrand took the right elbow in his left hand, pressing his thumb at the same time on the anterior face of the head of the radius, and having the child's hand in his own. He then extended the forearm, and exercising rather powerful traction, principally upon the radius, while he carried the hand in supination, then, pushing the head of the radius backwards with the thumb, he suddenly flexed the limb, and the displacement was reduced. The pain the child was suffering from was instantly removed, and the little patient could use the hand to carry a piece of cake, which was given her, to her mouth.

The second case so completely resembled this, that it is only mentioned to state that the reduction was as easy and sudden as in the preceding.

In 1837, M. Goyrand published a communication in the *Gazette Médicale*, on this injury, from which it appears that it is an incomplete luxation of the superior extremity of the radius, forwards. It is met with only in very young children; it is observed most frequently from the age of eighteen months to three years, when falls are frequent, and to prevent them, children are caught by the hand, or else the child is lifted up by the limb to carry it over the kennel. The upper extremity, thus placed in pronation, supports the whole weight of the body; the weakness of the ligaments and muscles at that age favours the separation of the articular surfaces; a luxation does not take place, and consequently there is not an appreciable change in the shape of the elbow, but the extremity of the radius, separated at first from the small head of the humerus, from the traction exerted on the forearm, is carried forwards by the rapid contraction of the biceps, and there results a change of the articular relations sufficient to explain the appearance of the phenomena by which this injury is generally accompanied.

A significant crackling noise warns the surgeon when the articular surfaces have regained their respective positions. The pain is immediately removed, and the use of the limb is so perfectly restored, as to prevent any necessity for consecutive treatment.—*Prov. Med. Journ.* Nov. 19, 1842.

51. *Staphyloraphy*.—The *Dublin Journal of Medical Science*, for January last, contains an account of three cases, in which the operation for uniting the cleft soft palate was performed successfully. The operator in the first case was Dr. Cusack, surgeon to Stevens' Hospital, in the two others Sir P. Crampton. Dr. Cusack's patient was a medical student, eighteen years of age, labouring under a congenital fissure of the soft palate. For some time previous to the operation he was directed to employ measures to diminish the irritability of the fauces, the existence of which constitutes one of the principal difficulties, and in the removal of which he was perfectly successful.

Dr. Cusack proceeded as follows:—With the aid of a simple forceps and curved needles, three ligatures were passed at equal distances from each other through the soft palate, the lowest being at the base of the uvula; a double-

edged knife was then introduced about a line from the margin of the cleft, and the same distance from the apex of the triangle; on each side in succession, the incisions being terminated above. After the lapse of a short time, during which the patient took some light nourishment, the edges of the wound were approximated, and the ligatures tied with a surgical knot; one of them, however, having been cut, as it was supposed, too closely, unravelled, and was replaced. Some slight hæmorrhage followed, with teasing cough, and a few hours after the operation all the ligatures had become unravelled, and were, of necessity, replaced by two others at points more remote from the margins of the fissure. They were each secured by a simple knot. No untoward symptoms occurred afterwards, and on the fifth day the ligatures were cut, the palate being perfect, the only remaining defect being a bifid uvula, a condition commonly met with in persons who articulate with perfect distinctness.

Sir Philip Crampton's patients were a boy of twelve years of age and a young lady aged sixteen. The peculiarity in the treatment of these cases consisted, first, in the manner of securing the ligature; and secondly, in the management of the patient after the operation. The difficulty of tying the second knot on the ligature, without suffering the first to become opened by the strong retraction of the edges of the fissure effected by the muscles of the palate, has always been acknowledged. This difficulty, however, was effectually removed by an ingenious contrivance of Mr. Maclean's; after the ligatures had been passed through the palate at the distance of a quarter of an inch from the cut edge of the fissure, and brought out at the mouth, their ends were passed through a small perforated metallic bead, such as are used in making purses; the bead was then pushed down along the ligatures, closing them as it descended, until it touched the approximated edges of the wound; it was then compressed with a pair of strong, blunt-pointed forceps, and the ligatures were thus firmly secured without a knot at the required degree of tension. The other and most important peculiarity in the treatment consisted in allowing the patients an ample supply of soft food during the whole period of the treatment. Boiled bread and milk, custard, soup, and jelly, were given twice or thrice a day, and the patients were not confined to their beds, Sir Philip Crampton conceiving that the total privation of all nourishment for five days, so strongly insisted on by Roux, was not only unnecessary, but in the highest degree unfavourable to the successful issue of the operation, as it must cause a state of constitutional disturbance highly unfavourable to the establishing of the healthy process of union by the first intention, in proof of which the observations of Messrs. Manoury and Thore, house-pupils at the Hotel-Dieu, where Roux's operations were performed, are quoted; they state that they have seen delirium and severe nervous derangement follow such protracted abstinence from food.—*Prov. Med. Jour.* March 25, 1843.

52. *Staphyloraphy in cases of Cleft Palate.* By M. Roux.—The velum palati, like the upper lip, may be affected by a species of congenital malformation, which consists in fissure or separation of the lateral portions, along the median line. This division may be *simple*—that is, confined to the soft parts; or *complicated*—that is, extending more or less to the hard palate, or even comprising the alveolar processes of the superior maxillary bone and the upper lip. Artificial reunion of the velum palati has been chiefly applied to the congenital disease; but it is equally suited to accidental malformations arising from ulceration, wounds of the mouth, or certain operations for the extraction of polypi, foreign bodies in the pharynx, &c.

In some cases the disease is confined to simple bifurcation of the uvula; in others, which is less common, a part of the soft palate only is divided; in ordinary cases the fissure extends to the whole of the soft palate. M. Roux lately saw rather a rare example in the son of a German physician; the soft and hard palates were separated, but there was no hare-lip; the velum palati, however, was imperfectly united by a thin transparent membrane, evidently formed by the mucous membrane. Although the fissure always exists on the median line, the

two sides of the palate do not always present the same degree of thickness or breadth—a circumstance which may cause some trouble in fixing the needles properly. On the other hand the palate may be in various states which are more or less favourable for the success of the operation. It may be solid, thick, and capable of supporting the sutures well; or it may be thin, membranous, and semi-transparent. The degree of separation varies much; sometimes it is produced by simple-bifurcation of the posterior nasal spine; sometimes by complete separation of the two sides of the roof of the mouth. In the latter case the cavity of the mouth communicates freely with that of the nares and pharynx.

As to solutions of continuity arising from wounds, we can readily conceive that they must be extremely irregular and of various forms, according to the causes which have produced them. The same remark applies to deformities from syphilis or scrofulous ulcerations, and the latter are much more frequent than has hitherto been supposed, their ravages being erroneously attributed to secondary syphilis.

Having thus briefly noticed the anatomical varieties of cleft palate, it may be well to enumerate, as briefly as possible, the inconveniences which arise from this deformity. In new-born children it gives rise to great difficulty, or even impossibility, of drawing the breast, according to the extent of the fissure. When the velum palati alone is cleft the child may be able to suck; but even then, whenever he is placed in a horizontal position, deglutition becomes extremely difficult; some assistance, however, may be rendered by placing the infant erect, and by pressing the bosom. When the hard palate and lip are divided the child is incapable of sucking, and must be supported by artificial means. As the individual advances in life much inconvenience may arise from a difficulty of pronouncing words intelligibly, and the voice is always nasal and disagreeable; certain guttural sounds can never be produced. The English physician on whom M. Roux performed his first operation pronounced the *th* like *s*, and spoke more distinctly in French than in English. “*Verba naribus egressa videbantur.*” Amongst minor inconveniences may be reckoned the impossibility of blowing, of drinking in the horizontal position, playing wind instruments, &c. &c., a great tendency to reject all fluids through the nares.

A remarkable fact, which should have been noticed before, is that the two sides of the velum approximate each other, or come into contact during efforts at deglutition; it was this fact which first led M. Roux to the idea of uniting them by suture.

Staphyloraphy is an extremely delicate operation; it requires so much docility and patience on the part of the individual operated on that it should not be attempted before the age of fifteen or sixteen; but this period may be slightly advanced or deferred, according to the determination and courage of the patient. The operation may, indeed, be performed at any period of life; and the earlier it is done the less chance we have of being foiled by a vicious habit of pronunciation; but experience shows that the chances of success are not sufficient to warrant us in undertaking it before the period just mentioned.

In cases of cleft palate complicated with fissure of the hard palate and upper lip, the hare lip should be united at as early an age as possible.

The instruments employed during the operation are known to all surgeons. They are few and simple; flat ligatures, formed of two or three threads, and fixed in the needles, needle-carriers (*porte-aiguilles*), hooked forceps, common forceps, a probe-pointed bistoury, and a pair of long-bladed curved scissors, &c. The most convenient needles are from 0.44 to 0.88 of a line in breadth, slightly enlarged near the eye; of a parabolic form, the curve being 0.88 of a line and the branch which supports the eye being about six or seven lines longer than the other branch.

The patient is placed on a low seat; the ligatures are inserted from below upwards at equal distances; generally three in number, commencing from behind and at from 3.5 to 3.9 lines from the edges of the fissure. When the point of the needle has passed clearly through, the needle-carrier is opened, and the ligature disengaged by the forceps. The three ligatures being thus placed, the sur-

geon proceeds to refresh the edges of the fissure. The inferior part of the velum is seized by the hooked forceps, and the excision which has been commenced with the scissors is finished with the bistoury; the flap or portion of tissue thus removed is about 1.7 to 2.2 lines broad. The ligatures are now tied in the same order that they were placed; the first knot being held by the ring-headed forceps, until the second one is fastened.

Such is the usual course of proceeding, but in cases of division of the hard palate the following modification is made:—When the edges of the fissure have been refreshed, the soft parts are divided transversely by an incision which runs along the posterior edge of the palatine bones. This aids very considerably the extensibility of the two sections of the velum palati, and enables the surgeon to unite them without using the slightest force.

Every circumstance which may impede the union of the parts must be carefully avoided. The patient must observe complete silence, and avoid every excitement; he must not swallow his saliva, and even food must be abstained from, the ill-effects of abstinence being counterbalanced, if possible, by nutritious enemata. It must be confessed, however, that the latter are very efficacious substitutes for food, and few patients can support absolute privation from it. In two cases the want of food gave rise to severe agitation and delirium; on the whole it may be prudent to let the patient have some liquid sustenance in small quantity.

The immediate results of the operation are a sense of tension in the back of the mouth, and sometimes smart pain extending into the ear. The ligatures should be removed on the fourth or fifth day; the inferior ligature the last in cases of simple fissure, but first in the complicated form. Sometimes we can remove the ligatures on the fourth day; sometimes the inferior or superior one is left in for a day longer, according to the distinction just made. The thread is simply taken hold of by a forceps, and cut through. The patient should have some broth before the ligatures are divided. During the next few days he must preserve silence, and take nothing but broth.

The following analysis of nine cases operated on during the course of the year 1841 will serve to furnish some idea of the results of this operation:—

CASE I.—A patient, twenty years of age, had a fissure involving the hard and soft palates and the upper lip. The hare-lip had been operated on some years previously by M. Sanson. A considerable interval separated the two segments of the roof of the mouth in nearly its whole extent; the velum pendulum was thick and strong. The operation was simple: M. Roux divided the velum transversely near the edge of the palatine bones. The patient was examined five months after the operation, and found to be in a most satisfactory state. The fissure was very considerably reduced, appearing merely as an oval aperture; he could now speak distinctly, whereas before he could not pronounce words intelligibly.

CASE II.—This case was analogous to the preceding one. M. Roux had operated on the patient for hare-lip when he was five years old, and the effect of that operation was to diminish the interval between the lateral portions of the hard palate. Ten years afterwards, in April, 1841, staphyloraphy was performed with complete success.

CASE III.—This was the case of a girl, twenty-one years of age. The lip was intact, and the fissure occupied the soft palate only. The operation lasted about half an hour; its results were satisfactory, a small aperture only remaining, which will probably close up with time.

CASE IV.—Vassel, thirty-one years of age, was admitted into the Hôtel-Dieu on the 4th of July, 1841. He was born with simple cleft palate; there is, however, a slight notch in the posterior nasal spine; the lateral segments of the velum are of equal thickness, but the left is narrower than the right.

The operation performed on the 5th of July, presented nothing remarkable, if we except some difficulty in fixing the left portion of the superior ligature. When the threads were drawn together, a small aperture remained, which it was im-

possible to obliterate by tightening the upper knot. On the following day, in spite of injunction, the patient talked constantly and drank frequently. On the 9th the ligatures were removed; union had taken place at a small point only, near the middle of the fissure. This was M. Roux's hundredth operation.

CASE V.—Maret, was admitted into the Hôtel-Dieu on the 8th of July, and the operation performed on the 20th. This was a case of fissure extending through the whole of the palate and upper lip. M. Beclard had operated for the hare-lip when the patient was seven years old, but the operation was only successful in part. The edges of the wound had united by the second intention, but the anterior portions of the hard palate had been so completely approximated, that there was not the slightest interval between the incisor teeth. The left side of the velum was narrower than the right; both were thick and well organized. On the 24th, the two inferior ligatures were removed; reunion had not taken place at the lowest points. On the 25th, the superior thread was removed, and here union was perfect. He left the hospital on the 28th.

CASE VI.—A young man, twenty-two years of age, had simple fissure of the velum, with bifurcation of the posterior nasal spinous process. The operation was performed on the 20th of July, 1841. The two superior ligatures were removed on the fourth day, and the inferior one on the fifth. Complete union had taken place, but the cicatrix gave way opposite the lower thread, in consequence of violent coughing. There likewise remained a very small oval aperture from the bifurcation alluded to. On the 13th of August it became necessary to apply a fresh ligature over the inferior portion of the velum.

CASE VII.—Mas, twenty years of age, a musician, was operated on at the Hôtel-Dieu, on the 24th of August. The case was one of simple fissure of the soft palate. Four days afterwards the ligatures were removed and complete union had taken place. The cicatrix was firm on the 29th, when the patient was allowed to speak and eat. On the 31st nothing remained, except an oval aperture of 0.8 to 1.3 of a line in diameter, from bifurcation of the posterior nasal process.

CASE VIII.—The operation in this case was performed in London, in the month of September, 1841, on a man, thirty-five years of age, not for congenial malformation, but for loss of substance from syphilitic ulceration. The operation failed.

CASE IX.—This operation also failed; it was performed on a tailor, named Hurel, eighteen years of age. The velum palati was thick and short, divided in its whole length; the posterior moiety of the hard palate was likewise fissured. On the 1st of November, 1841, two sutures only were inserted, as the palate was narrow; the edges of the wound were easily refreshed and the transverse incision made without difficulty. There was some trouble in tying the inferior knot, because the uvula was constantly driven against it, by the base of the tongue. The two threads were removed on the 5th, when it was found that the middle portion of the wound only had united. The voice, however, was less disagreeable. On the 7th, the whole of the cicatrix gave way while the patient was coughing.

From the preceding observations, it appears that of the nine cases just related, five were examples of complete and complicated fissure of the palate, cases in which the prognosis is always unfavourable. In three of those five cases the result was as favourable as could be expected; in one of the remaining two the operation completely failed; in the other a partial benefit resulted. Four cases were examples of simple fissure, although in two there was bifurcation of the posterior spinous process, which is always followed by the persistence of a small aperture. This latter can only be removed by having recourse to palatoplasty, and seldom if ever closes of its own accord. Finally, of two of the most simple cases, one failed, while the other was only partially successful. Of the nine patients operated on, one was a female; their ages varied from 15 to 35; the majority of cases (5 in 9) occurred between 20 and 22 years.

Although the operation is, in itself, attended with no danger, yet in 3 of the 105 cases it was followed by death. In one, severe inflammation of the pharynx

set in, and extended to the air-passages. The second was a young Englishman, who died with irregular nervous symptoms. The last case occurred in the daughter of an eminent English nobleman, who was carried off soon after the operation by phthisis. In 1828, M. Roux had performed 40 operations for cleft palate; 19 were cases of simple fissure, and of these 13 were successful, 6 unsuccessful; 21 were cases of complicated fissure, of which 12 failed, and 9 succeeded. In 1834 he had performed 68 operations, in 1842, 105.

The general result was, success in two-thirds of the cases of simple fissure; and in one-third only for cases of complicated fissure. This is not so favourable a result as that obtained from the earlier operations, but as it is drawn from a large number of cases, it probably gives a fair estimate of the chances of success or failure of the operation.—*Prov. Med. Journ.*, December 24, 1842, from *Gaz. Med. de Paris*, No. 30.

53. *Syphilitic Rhagades of the Sole of the feet and Toes*.—Dr. HERSCHMAN recommends the following salve as of great efficacy in allaying the pain and promoting the healing of the fissures. R.—Unguent. Lytharg. ʒj., Hydrarg. Præcip. alb. gr. x.—ʒj. M.—*Oest. Med. Wochens.*, No. 51, 1842.

OPHTHALMOLOGY.

54. *Structure and mode of action of the Iris*.—A paper on this subject, by C. R. HALL, Esq., was read to the Royal Society, Feb. 9, 1843. After reciting the various discordant opinions entertained at different periods by anatomists and physiologists, relative to the structure and actions of the iris, the author proceeds to give an account of his microscopical examination of the texture of this part of the eye in different animals. He considers the radiated plicæ, which are seen in the uvea in the mammalia, as not being muscular; but he agrees with Dr. Jacob in regarding them as being analogous in structure to the ciliary processes. The white lines and elevations apparent on the anterior surface of the human iris he supposes to be formed by the ciliary nerves, which interlace one with another in the form of a plexus. The iris, he states, is composed of two portions; the first consisting of a highly vascular tissue, connected by vessels with the choroid, ciliary processes, sclerotica and cornea, and abundantly supplied with nerves, which, in the human iris, appear, in a front view, as thread-like striæ; and which are invested, on both surfaces, by the membrane of the aqueous humour. They are more or less thickly covered with pigment, which, by its varying colour, imparts to the iris on the anterior surface its characteristic hue; and, by its darkness on the posterior surface, renders an otherwise semitransparent structure perfectly opaque. The second component portion of the iris consists of a layer of concentric muscular fibres, which fibres, in man, and mammalia generally, are situated on the posterior surface of the pupillary portion of the iris; but which, in birds, extend much nearer to the ciliary margin, and consequently form a much broader layer. In fishes, and in some reptiles, they do not exist at all.

The author then proceeds to inquire into the bearings which these conclusions have on the physiology of the iris. He thinks that the phenomena of its motions can receive no satisfactory explanation on the hypothesis of contractility alone, or on that of the antagonism of two sets of muscular fibres, the one dilating, the other of contracting the pupil. He is convinced that the contraction of the pupil is the effect of muscular action; but does not consider the knowledge we at present possess is sufficient to enable us to determine the nature of the agent by which its dilatation is effected. He, however, throws it out as a conjecture, that this latter action may be the result of an unusual degree of vital contractility, residing either in the cellular tissue, or in the minute blood-vessels of the iris. It is from elasticity, he believes, that the iris derives its power of accommodation to changes of size, and its tendency to return to its natural state

from extremes, either of dilatation or contraction; but beyond this, elasticity is not concerned in its movements.—*Proceedings of the Royal Society*, No. 56.

55. *Lachrymal Calculi*. By M. DESMARRES.—An old woman, 66 years of age, who had swelling of the joints of the fingers and toes, the result of gout, had suffered for two years from lachrymation of the right eye, which was succeeded by a discharge of purulent matter. On examining the eye, the conjunctiva and sclerotic were injected, the superior lachrymal puncture was healthy, while the inferior one was dilated to three times its natural size; from this there flowed a sero-purulent matter, which was not increased by pressure over the sac. An indolent tumour, of the dimensions of a small nut, occupied the situation of the lachrymal sac; the conjunctiva was raised by it; the skin over it was of the natural colour, but that of the cheek was excoriated in several places, by the constant irritation of the tears, and discharge. Upon introducing a probe into the lower punctum, a hard resisting body was felt. About two months after M. D. first saw the patient, the inconvenience arising from the tumour was so great that she determined to have it removed. This was easily accomplished, by means of a director placed in the lower punctum, and inserting on it one blade of a pair of scissors, and cutting with them the superimposed textures towards the inner part of the eye. The concretion, about the size of the green pea, immediately fell out; some yellow sandy matter was then removed from the bottom of the incision, and the walls of the sac and duct cauterized. The wound was quite healed in twenty-four days, when all the unpleasant symptoms for which the operation was performed had disappeared.

The following analysis of the stone was obtained by M. Bouchardat:—

Concrete albuminous matter,	25 parts.
Mucous matter,	18 “
Fat,	Traces.
Carbonate of lime,	48 “
Phosphate of lime and magnesia,	9 “
Chloride of sodium,	Traces.

Its weight was 4 centigrammes, and its sp. gr. 1.14.

—*Lond. & Edin. Month. Journ. Med. Sci.*, March, 1843, from *Gaz. Méd. de Paris*, December 3, 1842.

56. *Turpentine in Hemeralopia*.—CHARLES KIDD, Esq., relates in the *Dublin Medical Press* for 10th May, 1843, two cases of Hemeralopia which had proved refractory to various remedies, and which were cured by the following mixture: R Ol. Terebinth, ol. Ricini āā ʒj; Mist. Camphora ʒiv; Liquor potassa ʒj; Tr. Opii gutt. x. Ft. Mist. A large table-spoonful every morning and night.

MIDWIFERY.

57. *Abdominal Puerperal Neuralgia*.—DR. GOLDING BIRD, in a communication published in the January number of the *Edinburgh Monthly Journal*, draws the attention of the profession to a peculiar form of neuralgia arising from uterine irritation after parturition, which rather closely simulates the characters of puerperal peritonitis, and has often, as he believes, been mistaken for it. He narrates three cases in illustration of his remarks, in each of which the complaint was apparently removed by remedies, which certainly could not have cured the puerperal inflammation. He observes that at a time, varying from a few hours to a few weeks, after parturition or miscarriage, we occasionally find excessive irritation of the uterus, attended with intense neuralgic pain over the abdomen, and a suppression of the lochial discharge manifested, producing, as might be anticipated, a disordered state of every function of the body, and giving origin to a set of symptoms often mistaken and treated for puerperal fever or peritonitis. In the first case narrated by Dr. Bird, that of a woman whose

nervous system had been from the commencement of menstruation always more or less deranged from an irritable state of the uterus and its attendant, hysteric epilepsy, forty-eight hours after the termination of labour, the peculiar set of symptoms indicative of intense uterine irritation supervened. The suppression of the lochia and urine, the position of the patient in bed, the pulse, state of the tongue, skin, and abdominal tenderness, all preceded by rigors, appeared to indicate that much-dreaded disease, puerperal peritonitis; but the incoherent screams, the wild and unmeaning expression of countenance, the tossing of her arms, and the constant shifting of her position in bed, as well as the crying out on the mere approach of the hand to the abdomen, and the pain occurring in paroxysms, pointed out, on the other hand, the existence of excessive irritation, and unmasked the true character of the disease. The result of the treatment by the use of fomentations, purgatives, and opiates, fully justified the prognosis. Still, however, a degree of uterine irritation persisted, evidenced by pains about the loins, hips, and pubes. The bowels were next allowed to become constipated for two days, the consequence being the re-occurrence of rigors, cessation of uterine discharge, and an apparent attack of intense pleurisy. A careful examination of the symptoms, however, demonstrated the neuralgic character of the complaint, and she was again relieved by purgatives and opiates, by which the discharge of numerous scybalous masses was obtained.

The second case occurred in the person of a young woman, who, from the commencement of her first menstruation, had been the subject of those pains characteristic of uterine irritation, and which became more severe at each menstrual period. The bowels were habitually constipated, and she always suffered more or less from leucorrhœal discharge. The attack was induced by exposure to a draught of air, whilst in a state of perspiration, eleven days after parturition, and in its symptoms resembled puerperal peritonitis, for which it was mistaken by a practitioner who had been called in before Dr. Bird saw her. Fomentations and saline aperients speedily removed the complaint.

Dr. Bird, aware that the objection might be urged, that these cases of neuralgia arose from intestinal irritation, observes that we have equal evidence of derangement of every function of the body; the secretions of the skin and kidneys are in most instances deficient, those of the liver and mucous surfaces are always more or less vitiated, and the bowels, though often constipated, are occasionally acting too energetically, or in some cases are tolerably regular; but the uterine functions are, as far as Dr. Bird has seen, invariably affected, the secretion being either entirely arrested or becoming very foetid and viscid. He does not consider it reasonable to suppose that a slight constipation—a symptom of such frequent occurrence during the puerperal state—could develop so serious a train of symptoms, unless some other function was so manifestly imperfect as to produce a generally irritable condition of the nervous system, and thereby render the body obnoxious to attacks of disease from exciting causes, which, in the ordinary state, and when free from such depressing influences, would be almost without action upon it. He regards the depressed state of the nervous system produced by the irritable condition of the womb, as the predisposing cause of these attacks, and any slightly deranged function, whether of the skin, liver, or bowels, will act as an exciting cause upon such a deranged state of the system, and develop in full force the severe neuralgic attacks under consideration.

With regard to the diagnosis of these neuralgic affections, the comparison of the different symptoms presented by the patient will generally be the best guide of the practitioner. Every symptom of genuine peritonitis may be present in these attacks, but not at the same time; again, the accession of the pain in paroxysms, the screaming out ere the hand is in contact with the abdomen, or when it has barely touched the parietes; the fact of our being often able to apply considerable pressure without pain, when the patient's attention is arrested by a sudden exclamation, an abrupt query, or her infant's cries, will generally enable the practitioner to detect the true nature of the disease. The excessive depression of spirits, and often the strange and groundless delusions of the patient—

the accession of an occasional hysteric convulsion—will also assist in forming a correct diagnosis, a task at all times of no small difficulty in these cases.

There is one very curious circumstance connected with this subject, that when a rumour has been spread abroad of a patient having died of puerperal fever, almost every other woman in the neighbourhood who happens to be confined is seized with the symptoms just narrated with greater or less severity, an effect somewhat analogous to that produced on the nervous system of some women who see another the subject of hysteric fits.—*Prov. Med. Journ.* March 18, 1843.

58. *Rupture of the Uterus.*—DR. MITCHELL'S contributions to obstetric medicine, published in the January number of the *Dublin Medical Journal*, contain the details of a case of rupture of the anterior wall of the uterus, which terminated successfully. The treatment chiefly relied on consisted in the sustained administration of opium. The patient was a woman, thirty-eight years of age, the mother of six living children. When admitted into the Southeastern Lying-in Hospital, of which institution Dr. Mitchell is the master, the os uteri was found dilated as large as a penny piece, the head presenting, and the pains recurring about every ten minutes. She was admitted on the night of the 18th of September, 1842, and at seven, A. M., of the following morning, Dr. Mitchell was summoned to be in attendance in consequence of the pupil being alarmed at the great prostration of strength which had ensued. Stimulants were given, and, in consultation with Dr. Beatty, it was at once determined to extract the child. On attempting to effect this with the forceps, the head receded, so that it was thought advisable to use the perforator, which was done according to Dr. M'Keever's plan—that is, not to apply it at the most depending part of the presentation, but to one side; so as to press the part as it were against the pelvis of the mother, and thus prevent the recession of the child through the rent. The head was afterwards extracted without much difficulty with the crotchet, the uterus acting in the expulsion of the shoulders and body. The placenta was extracted immediately, and a rent perceived at the junction of the anterior part of the cervix with the os uteri. The uterus contracted firmly, and no intestine whatever escaped through the fissure. The internal administration of opium in the solid form was immediately commenced, a grain being given every hour. Towards evening small doses of calomel were combined with it, and the abdomen steeped with hot water and turpentine, in consequence of impending symptoms of peritonitis. The inflammatory indications, with the exception of considerable irritability of stomach, were speedily checked; but severe diarrhœa set in, and continued nearly throughout the treatment. In other respects the patient had scarcely a bad symptom after the first severity of the accident had been subdued. On the sixteenth day, a discharge of about two pints of extremely fœtid, mucopurulent fluid took place from the vagina, and nearly to the same extent the following day, but less fœtid in appearance. After that it gradually diminished in quantity, and was very trifling when she was dismissed on the thirty-first day after the accident.

Opium in this case was relied on from the commencement; it was administered at the suggestion of Dr. Beatty, who had previously witnessed its good effects in a case of rupture of the uterus, occurring likewise in the anterior wall of the cervix. With respect to its action in these cases, it is well known that it exerts a powerful influence in allaying or diminishing muscular contraction, and is thus supposed to be of use in cases of rupture of the intestine; at least this is the view taken of it by Dr. Hart, who, at page 306 of the fifth volume of the *Dublin Hospital Reports*, after speaking of the impropriety of giving purgatives, as by their action they would tend to increase the peristaltic motion of the intestines, and thus produce a greater effusion of the intestinal contents, says, instead of purgatives, then it would appear more proper to give large doses of opium with a view of suspending peristaltic motion, could this be accomplished, and the inflammation moderated, by general and local bleeding, and counter-irritants, as sufficient time might be gained for the formation of adhe-

sions around the wound in the intestine, &c. In Dr. Mitchell's case, although the uterus contracted firmly immediately after the extraction of the child, yet as soon as the opium had been taken in sufficiently numerous doses it became relaxed, so much so indeed as to appear as large as when impregnated, and this dilated condition it did not lose until the tenth day, showing that the opium acts in a similar manner in both cases. Another remarkable similarity produced by its use in the two accidents, rupture of the uterus and of the intestine, is that in both it appears to lose its narcotic and astringent properties, as shown by the case of a man admitted into the Meath Hospital labouring under symptoms of peritonitis, from ulcerative perforation of the intestine, to whom 105 grains of opium, exclusive of that in the injections, were administered without the patient experiencing the slightest coma, headache, or delirium; diarrhœa also setting in severely for three or four days. Dr. Mitchell's patient, who presented somewhat similar symptoms, took altogether 53 grains of solid opium, and nearly 400 drops of laudanum.

Dr. Murphy observes, with respect to the causes of rupture of this organ, that a perfectly healthy uterus is rarely ruptured, except from external injury; that in most of the instances where it occurs it may be traced to morbid lesions either previously existing, or produced by inflammation; and even in some cases where this cannot be satisfactorily proved from inspection, the history would seem to indicate it, and that rupture may occur in cases where the labour is not unusually prolonged, nor the pains violent; on the contrary, it has happened where the pains were weak and the progress of labour in every other respect favourable.

The prior history in Dr. Mitchell's case is such as to give rise to the belief that some morbid action had been going on previously in the uterus, as about three months before her labour took place the patient applied to him, complaining of great and incessant pain in the lower part of the abdomen, together with a discharge of a thin, fetid fluid from the vagina on two occasions, about a fortnight elapsing between each discharge. She described the sensation of the child as if it were standing upright, the pressure being in front, to which she referred the pain. It is a remarkable fact, that in cases of rupture the greater number occur in persons who have borne several children previously, and in whom consequently the womb may have been injured or debilitated in the previous labours.—*Prov. Med. Journ.*, April 8, 1843.

59. *Prolapsus of the Uterus reduced after sixteen years' continuance.*—M. DURANT records an interesting case of this in the Transactions of the Medical Society of Ghent. The womb protruding beyond the external parts, and covered by the inverted vagina, presented a globular tumour, round and contracted at its origin into the form of a circular appendix. The *os uteri* was clear at its inferior part. The tumour at its middle part was fifteen and a half inches in circumference. Its external surface was brownish red, and covered with crusts and ulcerations. The long continuance of the affection had seriously injured the general health of the patient—she was pale and emaciated, and subject to sleeplessness, and cramps of the stomach.

M. Durant, before attempting reduction, kept the patient on light diet, and at rest in bed in a proper position; at the same time dressing the tumour with opiated emollient fomentations. Its surface speedily softened, and the crusts fell off, leaving superficial sores. After six days of this treatment, the operation was performed. It having been ascertained that the rectum and bladder were empty, the patient was placed in the position most advantageous for the entrance of the womb. M. D. then introduced the right forefinger into the *os uteri*, and burying it, pushed upwards in the axis of the tumour, which itself was placed in the axis of the true pelvis—then retaining the uterus in its place with the left hand, withdrew the finger, and, repeating this manipulation with gentleness, just as one turns the finger of a glove outside in, accomplished the reduction in less than half an hour. He then inserted into the vagina a sponge, cut into the form of a cylinder, and saturated with an emollient decoction, the thick end being highest up, and a cord attached to the other, for the purpose of removing

it at pleasure. This sponge-pessary was retained in its place by means of compresses, and the T bandage. The patient did well, speedily gaining flesh and strength. During the after-treatment, which continued for about six weeks, emollient and astringent lotions were employed, and an ordinary-sized caoutchouc ring-shaped pessary was used, the saturated sponge and the injections being passed through its centre.—*Lond. Med. Gaz.*, April, 1843, from *Journ. de Med. et de Chirurg. Prat.*

60. *Abscess in the Walls of the Uterus*, by FREDERICK BIRD (related at the Westminster Medical Society). Mrs. G. aged 37. had, previously to the last three years, enjoyed general good health, menstruating regularly. At this date she married, and was soon afterwards attacked with acute deep-seated pain in the hypogastric region, radiating to all parts of the pelvis, and increased by micturition and defecation. These symptoms were associated with general constitutional disturbance, and, in fact, with all the ordinary symptoms of inflammation affecting the uterus. She passed through the usual forms of treatment, and although the more urgent symptoms were mitigated, yet she continued to suffer during the three following months from occasional pain in the region of the uterus, always produced by attempts at expelling the contents of the bladder or rectum, the discharge of fæces being also sometimes effected with great difficulty. An internal examination made at this period detected the uterus lower in the vagina than usual; there existed marked enlargement of that organ, the chief increase in size being found to occupy the posterior wall; the os and cervix uteri were painful to the touch and tumid.

Shortly after the vaginal examination had been made about half an ounce of pus suddenly escaped from the rectum, and she experienced immediate relief from her former symptoms. She now became the subject of diarrhœa, generally passing from six to eight evacuations daily, each of which contained more or less purulent matter; pain in micturition was no longer felt, but she invariably suffered greatly when passing motions. The diarrhœa could not be arrested by any of the remedies employed; her general health, nevertheless, slowly improved, and she went into the country, where she remained during the succeeding two years, little or no variation in her symptoms having occurred. The diarrhœa, and with it the discharge of pus from the rectum, continued; on some occasions more than a pint of pus has been thus evacuated during twenty-four hours, and she observed that whenever the pus failed to be discharged so freely as usual the local pain became aggravated. During the whole of this period menstruation had been very irregular, generally occurring at intervals of eight or nine days, accompanied by much lumbar pain and the passage of coagula.

After the lapse of the time mentioned she again applied to Dr. Bird, suffering from nearly all her previous symptoms, and, in addition to them, profuse menorrhagia; the pain in the region of the uterus was extremely acute, increased by the passage of the fæces and by pressure on the lower part of the abdomen, to which became added a neuralgic condition of the genital organs, the slightest pressure upon which produced extreme suffering; so great was the pain thus excited that she was accustomed to employ a mechanical contrivance to prevent the bed-clothes from touching the pubes. A vaginal examination was, with much difficulty and pain, again made; the uterus was found to be nearly in the same state as before, excepting that it had become quite immovable, appearing as if impacted in the pelvis, just as may be observed in some forms of malignant disease affecting that organ. No benefit resulted from medical treatment, occasional relief only being afforded by large doses of opium and the external application of belladonna.

She continued to suffer from frequent discharges of blood from the vagina, and from all her former symptoms, until the lapse of six weeks, when she sank exhausted by the extreme suffering produced by her disease.

A *post-mortem examination* was made twenty-four hours after death. On laying open the abdomen the omentum, small intestines, and all the pelvic viscera, were found agglutinated together by peritoneal adhesions of old date. On

raising the uterus it was seen to be firmly attached by its upper and posterior portion to the rectum; it presented an irregular form, having the fundus enlarged to about thrice its natural size. A longitudinal section showed this enlargement to have been produced by an abscess seated in the substance of the wall of the fundus uteri, the cavity of which contained about an ounce of dark thick pus; the walls of the abscess varied in thickness from one to three quarters of an inch, the thinnest portion being nearest to the cavity of the uterus. A communication by means of a short sinus could be traced passing from the cavity of the abscess to the adherent portion of the rectum, and opening into that intestine by an aperture sufficiently large to admit of the passage of a thick probe, and evidently of old formation. No communication existed between the uterine cavity and that of the abscess. The os and cervix presented no evidence of malignant disease. The Fallopian tubes and ovaries were adherent to the uterus, and could with difficulty be distinguished. The uterus had never been impregnated.

He (Dr. B.) had been induced to bring the case before the notice of the society chiefly from the rarity of such forms of disease; very few cases had as yet been described, and those which he had hitherto met with in the works of Madame de Boivin and others were complicated with carcinoma or other malignant disease of the uterus. In the instance he had related no evidence of such disease existed, but it was clearly a case of inflammation of the substance of the uterus terminating in the formation of abscess. It was difficult to account for the neuralgic state of the generative organs, unless the immovable and apparently impacted condition of the uterus might be received as sufficient to produce such an effect by mechanically pressing upon the surrounding nerves, an idea favoured by the fact that at the earlier period of the case, when the uterus was not thus fixed, the pain was limited to that viscus and did not extend to the external organs.

* * * The preparation was exhibited to the society, where Dr. Chowne stated that he had never seen a similar case. The uterus and its appendages, he said, were in that conglomerated state which is usually observed in women who had led an irregular life, and which was, probably, in them, dependent upon early and excessive excitement. This adhesion of the ovaries, Fallopian tubes, &c., in prostitutes, had been noticed also in France. Perhaps, he added, in Dr. Bird's case, this condition might have been the result of the disease under which the patient laboured. On the same occasion another member of the society, Dr. Reid, said that he also was unacquainted with the record of any similar case, excepting those related by Madame Boivin, and thought the disease must be a remarkably rare one.—*Lancet*, 28th Jan. 1843.

61. *Statistics of Deliveries*.—Mr. WILDE, in his recent work on Austria, gives the following interesting tables of 25,906 deliveries, and 26,149 births, in the Imperial Lying-in Hospital in Vienna, (the *Gebäranstalt*) for the eight years ending the 31st Dec. 1840.

Children	{	Single births	25,638.		
		Twins, 218 times	— 496, or 1 in 105·43.		
		Triplets, 5	“ — 15, or 1 in 5229·8.		
		Total births, 26,149.			
Sex in 23,513 births*	{	Boys, 11,717	Proportion of Males to 100 Females	100·17.	
	{	Girls, 11,696			
Sex of Still-born	{	Boys, 48	Proportion of Males to 100 Females	106·66.	
Children in 2,201	{	Girls, 45			
births.	{	—			
	{	Total 93			

* This affords another very remarkable instance of the laws that are supposed to regulate illegitimate births, viz:—that females are either equal to, or predominate over, male births; for of 21,212 children born in the seven years prior to 1838, the sexes were in the proportion of 10,581 males to 10,638 girls.

63. *Statistics of Still-born Births.*—The following table exhibits the number, sexes, and proportion to the living births, of still-born births in seven years in the Austrian dominions:—

LOCALITY.	Total Births.	STILL-BORN.					Proportion of Still born to Living Infants, as 1 to
		Males.	Females.	Legitimate.	Illegitimate.	Total.	
Vienna - - - - -	101,167	2027	1614	1713	1928	3611	27 78
Linx - - - - -	5,942	160	130	180	110	290	20 48
Graz - - - - -	12,847	163	119	178	104	282	45 55
Laibach - - - - -	3,426	54	41	67	21	98	34 95
Trieste and District - - -	20,351	88	43	28	103	131	155 35
Innsbruck - - - - -	2,099	33	20	33	20	53	39 60
Prague - - - - -	30,309	813	572	733	652	1385	21 88
Brünn - - - - -	11,659	117	78	111	84	195	59 78
Lemberg - - - - -	18,762	368	241	308	301	609	30 80
Zara - - - - -	2,922	74	65	75	61	139	21 02
Milan - - - - -	42,466	915	462	1101	276	1377	31 56
Venice - - - - -	25,663	457	410	528	369	897	28 60
Total,	278,613	5269	3828	5055	4042	9097	30 62

—Wilde's Austria.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

64. *Kakodylc. (Cacodyl.)*—This remarkable substance deserves some notice, from its toxicological characters, and a brief statement of its nature and compounds will not therefore be misplaced.

When equal weights of acetate of potash and arsenious acid are submitted to dry distillation, a remarkable liquid is obtained, which is called *liquor of Cadet* or *alcarsin*. It is distinguished by its insupportable odour and spontaneous inflammability in air. The mode of its formation and the oxidability of alcarsin, induced the idea that it belonged to the acetyl series and contained arseniuretted hydrogen. Berzelius, however, deeming this improbable, presumed alcarsin to be the oxide of a compound radical, which he named *cacodyl*, in reference to its repulsive odour. Bunsen has adopted the same theory, and has devoted much time to an investigation of this class of bodies, of all of which the sensible properties are offensive and dangerous. He succeeded in isolating cacodyl, the supposed radical of the series.

This substance is an ethereal limpid liquid of a nauseous odour, and takes fire spontaneously in air and in chlorine gas with the formation of a cloud of white smoke, and which consists of water, carbonic and arsenious acids.

If air be gradually admitted, thick white clouds are evolved, and oxide of kakodyle and kakodylic acid are formed. If the supply of oxygen be insufficient for complete combustion, a secondary product is formed, termed by Bunsen, *erytharsin*; this is deposited, mixed with a black fetid layer of arsenic.

Oxide of Cacodyl (alcarsin,) as already described, is a violent poison when taken internally.

Cacodylic acid (formerly called *alkargen* by Bunsen) crystallizes in large colourless prisms. It is inodorous, and in a toxicological point of view, is a very remarkable substance.

“For although it contains more than 72 per cent. of arsenic and oxygen in the same proportion as arsenious acid, it does not exhibit the least poisonous properties. Eight grains dissolved in water were injected into the jugular vein

of a rabbit, but produced neither death nor indeed any symptom of a poisonous action. This unexpected fact is in perfect concordance with one which has not as yet been regarded, but which is evident in the pharmaco-dynamical properties of organic bodies, and on which is founded one of the characteristic distinctions between the inorganic bodies and those produced by the interference of vitality. If namely, certain matters are added to inorganic bodies, their pharmaco-dynamical effects are thereby somewhat altered, but not destroyed. If on the contrary, they combine together to form organic substances, these properties are completely lost. Copper, lead, mercury, and barium do not lose their poisonous qualities, whatever the *soluble* compound may be in which they are present. Carbon, hydrogen, nitrogen, and oxygen, which in strychnine, atropine and conine, form the most violent poisons, are altogether harmless in the compounds of proteine. This fact receives a beautiful confirmation from the kakodylic acid; arsenic, as if combined by organic affinity, has become a harmless body. Kakodylic acid contains to one atom of radical, four atoms of oxygen, of which one atom is combined with hydrogen to form basic water, which cannot be drawn out by heat, but only by stronger bases." (*Bunsen.*)

Chloride of Kakodyle is a colourless ethereal liquid which does not fume in the air, but is converted at a little above 212° into a colourless vapour, which inflames in the air. Its odour is extremely penetrating and stupefying.

Cyanide of Kakodyl is produced by the distillation of concentrated hydrocyanic acid, or of a solution of cyanide of mercurry with oxide of cacodyl. It crystallizes in fine prisms, highly limpid, which emit a strong and insupportable odour. It is insoluble in water, and is declared to be the most poisonous of the compounds of cacodyl.

I have consulted for the above, Graham's Chemistry, the Reports of the British Association for 1840 and 1841, and the London, Edinburgh, and Dublin Philosophical Magazine for March, 1843.

T. R. B.

65. *Insurance on Lives.*—It is now quite common, in cases of life insurance, to make an exception as to suicide. In the case of *Borrodale v. Hunter* and others, tried before the English Court of Common Pleas, in December, 1841, the action was brought to recover the sum of £1000, on a policy effected by the Rev. Wm. Borrodale on his own life in the London Life Association.

It was shown, that on Friday, the 16th of February, 1838, the assured was seen to deposit his hat and cloak in one of the alcoves of Vauxhall Bridge, to cross to the Battersea side and climb over the parapet, and having gradually crept along to where the water was deepest, threw himself into the river, and was drowned.

It was shown, that the unfortunate gentleman, until within a short time of his death, was a man of remarkable energy and activity, cheerful in disposition, pious, exemplary in his dealings, and affable in manner and address. Unfortunately he became surety for a tax collector named Foster, who in November, 1837, made default, and from that time the assured was observed to be an altered man. He appeared to labour under great depression, was subject to fits of absence, lost his appetite and apparently, in some degree his memory; spoke little, and did not like to be left alone. He would stay up late at night, instead of going to bed about eleven, as was his usual custom; would observe, he could not bear to go to bed; if he did, he could not sleep, and even if he did sleep it was still worse. He appeared to feel bitterly his embarrassment through Foster, and once observed to that person's wife, "Oh, Mrs. Foster, I am in such trouble, that I know not sometimes where I am going, or what I am doing."

He appeared to have a presentiment of what might happen, and therefore begged that his brother-in-law would accompany him to London, observing that he did not know what he might do if left alone. He became remiss in the exercise of family prayer, in which he had been before most regular, and latterly he abstained from it altogether. He, however, continued to perform his other duties.

Being vicar of Wandsworth, he performed his duty at the Parish church on the Sunday preceding his death; he read the service on the Wednesday fol-

lowing, and on the Thursday, attended a Board of Guardians of the Clapham Union, where he remained from eleven to four, and in the evening attended a reading society, of which he was a member.

On the Friday, (16th,) he appeared more cheerful than ordinary, and rallied his brother-in-law, who was a few minutes behind the breakfast hour, upon his sluggishness, saying, he hoped his early rising would not do him harm. Mr. Borrodaile ordered the servant to prepare his clothes for travelling on the next day to Worthing, where his wife and children were staying, and desired her (the servant) to get a steak for dinner at six o'clock. He then went out, telling his brother-in-law he was going to the Union and thence to London, where he should call on his brother, but he never returned.

The defence in this case was, that the insured died by his own hand, in contravention of the stipulation in the policy. It was also contended by the defendants, first, that there was nothing to show aberration of intellect on the part of the insured, and secondly, if there were, the simple fact of the party dying by his own hand would vitiate the policy.

"In this case, there could be no dispute as to the facts, but the question resolved itself into a dry point of law on the finding of the jury, whether a party who dies by his own hand, unconscious of right and wrong, thereby avoids the policy." No witnesses were called by the counsel for the defendants.

Mr. Justice Erskine told the jury that in his opinion, the true construction of the policy was, that where the assured intended to destroy himself, and had at the same time a sufficient mind to take his own life, the case would be brought within the condition of the policy. His lordship referred to the various circumstances of this extraordinary and important case, and concluded by observing: "There could be no doubt that the assured throwing himself into the water was his own voluntary act, but whether he had the will to destroy himself, knowing what the consequences of throwing himself into the water would be, was a question which he must leave to them to decide upon the evidence."

The jury found that Mr. Borrodaile threw himself into the water, intending to destroy himself, adding that previous to that time there was no evidence of insanity, but they were told by the judge, that they must take the act itself into consideration in connection with Mr. Borrodaile's previous conduct, and then say whether they thought at the time he was capable of knowing right from wrong. They retired again, and on their return stated "that Mr. B. threw himself from the bridge with the intention of destroying himself, but that he was not capable of judging between right and wrong."

The verdict was then entered for the defendants, with leave to enter it for the plaintiff.

On the 30th of January 1842, Sir Thomas Wilde accordingly moved to enter the verdict for the plaintiff, contending that the verdict was in fact a finding that Mr. Borrodaile was *non compos mentis*, and argued that the condition in the policy, by which it was provided that the policy should be void in the event of the party dying by his own hand, must be construed to mean "in the event of the party's becoming *felo de se*." The court granted a rule to show cause. On the 6th of June, Mr. Sergeant Channel contended that the finding of the jury was, that Mr. B. threw himself from the bridge, intending to destroy life and knowing that the act would destroy life, therefore *if the assured by his own agency produced death, the policy was void*, and the verdict ought to remain with the defendants. On the other hand, it was urged, that the legal result of the verdict excluded intention in any sense which could make the policy void, and that it was equivalent to a verdict of *non compos mentis*.

The court took the case for consideration, and their final decision is not stated. — *Appendix to the Treatise on Annuities in the Library for the diffusion of Useful Knowledge.*

In May 1843, their lordships gave judgment in this case, and there being a difference among them, they now delivered their opinions seriatim. The result was, that the rule was discharged, and the verdict remains for the defendants. — *London Atlas*, May 13, 1843.

T. R. B.

66. *Chloride of Gold as a test of certain vegetable Alkalies, (Morphine, Brucine, Strychnine.)*—MM. LAROCQUE and THIBIERGE have found the perchloride of gold a more decisive test of certain vegetable alkalies than the double chloride of sodium and gold. The following are the colours of the precipitates, which it produces with the salts of the annexed alkalies dissolved in water.

Quinine, buff coloured.

Cinchonine, sulphur yellow.

Morphine, yellow, then bluish, and lastly violet. In this last state, the gold is reduced, and the precipitate is insoluble in water, alcohol, the caustic alkalies, and sulphuric, nitric and hydrochloric acids; it forms with aqua regia, a solution which is precipitated by protosulphate of iron.

Brucine, milk, coffee, and then chocolate brown.

Strychnine, canary yellow.

Veratrine, slightly greenish-yellow.

All these precipitates, with the exception mentioned, are very soluble in alcohol, insoluble in ether, and slightly soluble in water. (*Journal de Chimie Medicale*, October 1842.)—*London, Edinburgh and Dublin Philosophical Magazine*, Dec. 1842.

67. *Detection of Opium.*—MM. LAROCQUE and THIBIERGE also detail various experiments on the modes of detecting opium, proposed by Dr. Christison, and they mention that their results differ much from his. They state that these differences may arise from three causes. 1. The inequality of the composition of the opium of commerce. 2. The analytical process employed by Dr. Christison, which consists in decomposing the meconate of lead by sulphuretted hydrogen; this, the authors show, frequently masks the meconic acid, and that it could only be detected by decomposing the meconate of lead with dilute sulphuric acid. 3. The variable nature of the liquids with which opium is mixed.

The following are some of the conclusions arrived at as the results of their experiments. 1. By the aid of reagents, it is possible to determine the presence of morphine, strychnine, and brucine in substances which, after being mixed with the salts of these alkalies, have undergone the vinous, acetic or putrefactive fermentation. Orfila has already shown that the putrefactive fermentation does not alter morphine. Merck detected the three alkaloids, after they had been exposed to fermenting animal and vegetable matters during twenty days, and our authors found similar results on adding salts of brucine to blood, and allowing it to putrefy, and again mixing the different alkaloids with sugar and yeast, and testing after the fermentation had been completed. 2. Iodic acid should be employed with great caution as a test of morphine, since if crystallized, or in the form of a concentrated solution, it is susceptible of being decomposed by neutral azotized bodies. 3. The reagents, on which the greatest reliance may be placed, as tests of morphine, are nitric acid, neutral perchloride of iron and perchloride of gold. 4. By the use of reagents, morphine which has been mixed with beer, soup or milk, may be detected. 5. It is also easy to prove by reagents the presence of meconic acid in soup or milk, especially when the meconate of lead is decomposed by dilute sulphuric acid.—*Ibid.*

68. *Action of Alkaline Chlorides on Mercury and Mercurial Compounds.*—I have noticed in the previous volume, the experiments of M. MIALHE on the action of alkaline chlorides on calomel, and also mentioned, that their results have to a certain extent been denied by Lepage. M. Mialhe has continued the investigation on other mercurial compounds and the metal itself, and the products obtained are such, that (if found to be accurate) they will deserve the attention of every practitioner of medicine, and aid materially in explaining the *modus operandi* of mercury, in its diversified modes of prescription.

A solution of sixty parts of common salt, and sixty of sal ammoniac is termed by Mialhe, the *assay liquor*; in this, sixty parts of the mercurial compounds were digested during 24 hours, at the temperature of the air, (59° to 65° Fah.,) and in the heat of a stove, 104° to 122°.

In *Protobromide of Mercury*, at the temperature of the air, the corrosive sublimate produced, was 0.6 part; by the heat of the stove 1.5 part.

Protiodide of Mercury in the air, 0.5 part; and by heat 0.6 part.

The solution acts on this with the least intensity.

Binoxide of Mercury, although scarcely soluble in water, yet in the air 4.7 parts, and by heat 15.4 parts.

Black Oxide of Mercury. In the air 1.1 part; by heat 1.9 part.

<i>Protosalts of Mercury.</i>		Temp. of the Air.		Stove heat.	
Protonitrate,	- - - -	0.4	part	- -	1.3 part.
Protosulphate,	- - - -	0.7	"	- -	1.4 "
Protoacetate,	- - - -	0.8	"	- -	1.1 "
Prototartrate,	- - - -	0.1	"	- -	0.8 "

Bisalts of Mercury.

Biniodide,	- - - -	11.0	"	- -	19.3 "
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All the salts of binoxide of mercury when in contact with the alkaline chlorides, immediately yield corrosive sublimate and a new alkaline salt by double decomposition.

Turbith Mineral. At the temperature of the air 11.2 parts; stove heat 22.8 parts.

Pertartrate of Mercury. Air 31.2 parts; heat 36.2 parts.

Bicyanide of mercury and pernitrate of mercury are also each converted into corrosive sublimate.

Our author further states that he had nearly concluded his experiments, when it occurred to him to try whether mercury itself would not be acted upon by this class of substances, and he found that this was the fact. The metal itself treated with the assay liquor, gave by stove heat 0.4 part of sublimate, and when this experiment was repeated with the mercury finely divided by mucilage, it yielded 0.7 part of sublimate.

The following experiments show the relative energy of the alkaline chlorides. 120 parts of hydrochlorate of ammonia, and 30 parts of calomel were placed in an open bottle containing 1000 parts of distilled water, the temperature of which was gradually raised to 122 Fah., and kept at this heat for half an hour; the sublimate produced amounted to 0.9 of a part. The experiment repeated with the following salts gave the annexed quantities of sublimate.

Chloride of Sodium, 0.4.

Chloride of Barium, 0.4.

Chloride of Potassium, 0.3.

"In concluding his experiments, M. Mialhe remarks that the reactions which he has pointed out take place at common temperatures, but better at the temperature of the body. All of them are produced in a short time, and some occur instantaneously, the greater part requiring only a few hours' contact for action. As then the different fluids contained in the human body, contain oxygen, chloride of sodium and hydrochlorate of ammonia, accompanied or not with hydrochloric and other acids which may facilitate their action, it follows that all the chemical phenomena produced under the circumstances described, occur in the human body when any mercurial preparation whatever is introduced into it; these always produce a certain quantity of corrosive sublimate in which their medicinal properties reside, and this fact explains, in the opinion of M. Mialhe, the hitherto unexplained physiological action and therapeutic properties of metallic mercury when introduced into the animal economy. (*Annales De Chim. et De Phys.—Lond., Edin. and Dub. Philos. Mag.*, for Dec. 1842, and Jan. 1843.

T. R. B.

69. *Death by Suffocation*.—At the March Assizes at Lincoln, in England, Thomas Johnson, alias Henry Hensey, was indicted for the wilful murder, at Croft, on the 12th of February, of Elizabeth Evison. From the evidence it appeared that the deceased was an aged person, about 70, living at the time of the occurrence, with her sister, who was nearly of the same age, in a lonely cottage, a short distance from the village of Croft. On Sunday, the 12th, they were both

well and walking about as usual. They slept in the same room up stairs, in separate beds, and retired to rest about eight o'clock. They were disturbed not very long afterwards, by a man breaking in at the windows of their chamber. He proceeded to obtain a light by means of a lucifer match, and then with some muslin, to tie together their hands and feet very tightly, and to fasten their arms under their shoulders equally tightly to the bedsteads, so that they could not move hand or foot, or at all help themselves. He then tucked the clothes closely over their heads, and proceeded to rob them of some money, silver spoons, &c., and then decamped by the street door, leaving it open and the women in the state just described. This was on Sunday night. They remained in this condition, both being almost suffocated, until the forenoon of Monday, when the deceased, who had been moaning during all this time, and frequently said she must be suffocated, expired. The sister could undertake to mark the time of the death by the cessation of the moaning and the breathing, as being in the course of the forenoon of Monday. She herself remained in this horrible state almost momentarily expecting the same fate, until Tuesday morning, when she heard some one near and cried out for help. This was a poor boy, begging, who gave the alarm to other persons, and the one sister was found cold and stiff, while the other was extremely exhausted.

The evidence produced left no doubt of the guilt of the prisoner. He was convicted and sentenced to death.—*London Atlas*, March 11, 1843. T. R. B.

70. *Probable Case of Superfoetation in a bilocular Uterus.* By M. BILLENGREN, (*L'Experience*, Nov. 24, 1842.)—The following is the first case, I apprehend, on record, of two fœtuses positively known to have been born from a divided uterus, and is therefore extremely interesting. "A woman, forty years of age, who had borne several children, about the sixth month of pregnancy, began to suffer from uterine hemorrhage. It was arrested for a few days, but soon returned, gave rise to uterine contractions and the expulsion of a fœtus, which, from its appearance, could not be more than a three months' fœtus. On examining the uterus, another fœtus was discovered, which was extracted by means of the forceps. This fœtus was well developed, had the appearance of a seven months' fœtus, was alive, and lived for some time. Each of these fœtuses had their separate placentas, which strongly adhered, requiring the introduction of the hand for their removal. By this means it was ascertained that the uterus was divided into two cavities, beginning just within the lips of that organ, and that each of these cavities contained a placenta. From the inequality in size of the two fœtuses, and their appearance, the author states that he was forced to admit this as an undoubted case of superfoetation, though somewhat similar cases have been usually described as those in which one fœtus has, at a certain period, been arrested in its development."—*Edin. Med. and Surg. Journ.*, January, 1843. T. R. B.

71. *Deaf and Dumb Witness.*—In the case of James Whyte, charged, in April, 1842, at the Circuit Court of Justiciary held at Stirling, in Scotland, with robbery, the principal witness, James Shaw, was called, and one of the crown witnesses, named M'Farlane, having been sworn to act as interpreter. M'Farlane deposed that he had known Shaw from his earliest years, had been on intimate footing with him, and was, on that account, able to communicate with him better than any other person whom he knew; that Shaw was not born deaf, but became so from disease, about the age of seven years; that he had been stone deaf ever since, and had lost, in a great measure, the faculty of speech; that he could talk a little, but so very inarticulately that none but those who were in the habit of communicating with him could understand his meaning; that the mode of communicating with him was partly by signs and partly by the motion of the lips. The interpreter having been desired by the court to repeat the oath to the witness, after communicating with him, stated, that though he believed Shaw to be naturally honest and trustworthy, he found it impossible to convey to his mind any idea of an oath; that the subject of their communications had always

been about ordinary country matters, and that as Shaw had received no education whatever, it was his decided opinion that he could not comprehend the obligation of speaking the truth.

In these circumstances the court held that the witness could not be sworn, and he was accordingly rejected.—*Lond. and Edin. Month. Journ. of Med. Sci.*, May, 1843.

T. R. B.

MISCELLANEOUS.

72. M. GIBERT's letter on the late Epidemic in Paris.—“I was present lately,” writes this intelligent physician to his friend Dr. Cayol, “at a meeting of our hospital physicians, when various questions connected with the reigning epidemic—during last summer and autumn in Paris—formed the chief topic of conversation; one of the gentlemen told us that, in a hospital which contains 230 beds, he had upwards of 60 cases of *typhoid fever* under his care at one time; another said that he also had had a great number, and had not lost a single case out of several hundreds; a third communicated the important information that, provided no active treatment was employed, and the *expectant* method chiefly trusted to, nearly all the cases might do well; while a fourth added, that he thought mild laxatives in many instances useful. All agreed in denominating the disease as *typhoid fever*.”

“But, although this name may have been brought into fashion by a school which is willingly satisfied with words in place of things, who is there but will not admit that the appellation is ill chosen at best, and that in particular it cannot be properly applied to the epidemic now prevailing in this metropolis? For in what does this epidemic really consist? In fevers induced by the high and continued heat of an unusually warm summer, which has partaken in many respects of the character of a tropical season. Now these fevers (generally of a mild form, as already said) assume very rarely the proper *typhoid* character, but usually either a bilious, mucous or a catarrhal form; in some cases, the fever is inflammatory and continued; occasionally it is more or less remittent; and still more rarely has it any thing of an adynamic or putrid character—the very character, be it observed, to which the term of *typhoid* would be least inapplicable.

“All these forms of febrile disease are evidently attributable to the mode of reaction in individual cases—a reaction, which manifests itself in different ways, according as the constitution of the patient is either sanguineous, bilious, or nervous.

“I have several patients at the present moment, in the Hospital St. Louis, affected more or less severely with the epidemic. In some it has been only an ephemeral fever, which passed off by sweating in the course of two or three days; while, in others, the fever has been of a catarrhal character; cough, nausea, slight diarrhoea, and a white coating of the tongue, being the most prominent symptoms. In one of the patients, the disease assumed the ataxic form, characterized by restlessness, delirium, paralysis of the bladder, and constipation of the bowels. In a few cases, the symptoms have been more or less remittent. Now I ask, is it not prudent to retain the old classic names of these various forms of fever, rather than to blend them all together under a single appellation, *typhoid*?—which, as far as the present epidemic is concerned, is unquestionably the least applicable and proper of all. Is there not a great practical advantage in retaining appellations, which in themselves suggest therapeutic indications! and has it not been clearly shown that the pretended successes of certain statistic physicians, who have boasted of their having lost scarcely any patients under such and such a course of treatment, may be at once traced to the erroneous use of this phrase, *typhoid fever*?”

M. Gibert closes his remarks by stating that unquestionably the “*medecine expectante*” was, on the whole, the most safe and judicious mode of treating the late epidemic in Paris. In those cases, where the fever had somewhat of an

ataxic or remittent character (usually without any shivering at the commencement of the paroxysm), he administered quinine with decided benefit; and in a few, where the vascular action was excessive, he had recourse to moderate depletion of blood.—*Med. Chirurg. Rev.* April 1843, from *Revue Médicale*.

73. *Results of the Re-Vaccinations made in the Prussian Army during the Year 1841.*—In Prussia every child is obliged to go to school, but before being admitted, a certificate of vaccination must be produced by the parents. In 1833, an order was issued, that each soldier entering the army should be re-vaccinated, which has been in force ever since, and a report of the re-vaccinations has been annually sent to the war-office by the military surgeons. The following table is for 1841. During the course of the year, 44,941 men were re-vaccinated, of whom 36,182 had well-marked cicatrices on the arm; 6193 had pits, but less distinct; and in 2567 there were none visible. In 23,383 soldiers, the pustules formed regularly; in 8635 irregularly; while they completely failed in 13,523. These last were again vaccinated, when the operation succeeded in 2254, and failed in 9468.

After vaccination, from 1 to 5 pustules were observed in 11,174 men.

"	"	6 — 10	"	"	6,513	"
"	"	11 — 20	"	"	4,838	"
"	"	21 — 30	"	"	855	"

Among those vaccinated in 1841, 2 were affected with varicella, and 8 with varioloid disease. That vaccination sometimes only succeeds after having been several times had recourse to, was observed in this as well as in former years. The proportion of cases in which this occurred was as 19 to 100. A soldier who had been three times vaccinated during the three previous years, and always unsuccessfully, had six well-marked pustules after the operation was performed, which would show that some temporary influence had formerly prevented their formation. The influence of re-vaccination in the diminution of variolous affections in the different military hospitals is most remarkable. In 1841 there were only 50 cases, of which 15 were varicella, 34 modified, and 10 true smallpox. Three died; of these, one had not been vaccinated on his admission into the army, as his vaccine certificate showed that the operation had been done shortly before he joined; the second occurred in a recruit who had not been re-vaccinated; and the third was in a non-commissioned officer who had been re-vaccinated some years before, but without success. Before the order for re-vaccination was issued, the different barracks used to be a prey to varioloid disease; it has now, however, disappeared.—*Lond. & Edin. Mon. Journ. Med. Sci.* March, 1843, from *L'Exam. Méd.* and *Berlin Med. Zeit.* May, 1843.

AMERICAN INTELLIGENCE.

Remarks on Typhus Fever, as it prevailed in Delaware Co., Penna.
By WILLIAM E. HAINES, M. D., of Springfield, Delaware County.

THE difference of opinion among physicians respecting the cause and nature of typhus fever induced me to note some cases which have occurred in my own practice within the last eighteen months. During the time that there were a great many persons attacked with bilious remittent fever, as also some with intermittent, there were a number of cases possessing many features peculiar to themselves, which finally put on the character of typhus fever.

The first case I will mention was a young married woman of delicate constitution, taken ill in the fall of 1841; found her with an accelerated but weak pulse, skin hot generally over the body, but feet cold, thirst urgent, complained of being very weak, tongue dry, and brown, with confused intellect. The foregoing symptoms I had met with in a number of cases of bilious remitting fever after the disease had progressed for some time; but so much appearance of typhus I had not before seen in the commencement of any case. As there did not appear to be sufficient cause for bleeding, ordered pediluvium, hydrarg. submurias gr. vi., to be followed in three hours by infusion of senna. The symptoms were improved by the action of the medicine, although now, tenderness of the abdomen was manifested, for which warm herb poultices were used; if they are not to be had, I found warm moist poultices of any kind greatly preferable to sinapisms or any thing which will simply irritate the surface. She took small portions of calomel and ipecac. at short intervals, followed every other day by castor oil to open the bowels; remedies were used to keep up as nearly as possible an equable state of circulation; and as a gentle stimulant infusion of rad. serpentaria was given, she had frequent hæmorrhage from the fauces during convalescence.

A man past middle age, who had formerly been of intemperate habits, but for some time previous to his illness had quit the use of intoxicating drinks, sent for me. I found him with a slow full pulse, roused with difficulty and very peevish; tongue brown and dry, no tenderness of the abdomen, but a fætor arising from the breath which I observed to attend in a greater or less degree every patient who was ill with this form of disease. Considering the age and habits of the man I did not bleed him, but gave him calomel gr. x., to be followed in two hours by infusion of senna; ordered his feet to be immersed in warm water made strong with mustard, and when the medicine began to operate on the bowels to apply a sinapism to the nape of the neck. I found him the next day very much relieved; directed a mild liquid diet, left a small portion of calomel and ipecac. to be given in the evening, and followed next morning by castor oil. He continued to improve, and I saw him but once after.

The history of the following case possesses peculiar interest. The patient was a man about sixty years of age, of delicate constitution, had been living with and assisting in nursing a brother who had quite recently returned

from a fatiguing journey, and was taken ill immediately on getting home, and died within a week after his arrival, of what I suppose, from the description given, was typhus fever. There were several more cases in the immediate vicinity equally fatal, which received the very expressive title of Black tongue fever or Black fever. A few days after the death of his brother the individual before alluded to sent for me, said his symptoms were very similar to those of his brother, that he was very anxious to be removed, and should die if left there. I procured him an asylum in a house not more than a mile and a half from where he was staying. His symptoms, which were those described in case 2d, excepting his pulse was quick and corded, thirst urgent and tenderness of the abdomen on pressure, were considerably mitigated by the change; the treatment was mild throughout, relying chiefly on a small portion of blue mass at night, and castor oil every other day; used an infusion of *rad. serpentaria* as common drink, as it had no unpleasant effect on the bowels. His disease was remitting in its character, and continued more than four weeks, his hearing was impaired and his nervous system generally very much shocked, had epistaxis frequently during his confinement and convalescence.

A child aged twelve, was living in a family who followed the Thomsonian plan of treatment, and in which there had been two deaths with what they called Black fever. After she was taken sick, her mother wished her brought home, which instead of being in a more healthy district, was the contrary. I found her almost insensible to every thing around her. It was with difficulty I could obtain any answer to my queries; her pulse was quick and vibrating, tongue covered with a brown crust, and dry, sordes on the teeth, bowels tender to the touch; directed a warm bath and revulsives to the feet and bowels, a dose of calomel to be followed in two hours by an infusion of senna, at the same time leaving her small portions of calomel and ipecac. to be given after the effect of the senna had subsided, at intervals of three hours. It was several days before I could perceive much improvement; however, contrary to the expectations of every one who saw her, she slowly recovered.

Two female members of a family had taken a long walk, and both returned home sick, but did not apply for any medical advice for several days, and when I saw them one was much worse than the other, having high fever, with constant delirium and all the other symptoms attending this form of fever, whilst the other one had a slight attack, the fever remitting for a few days, but soon began to decline, whilst the former was ill for weeks. Her attack being so violent, she was bled and treated more actively than most of the others. Extensive suppuration took place from the glands of the groin after she began to improve.

An elderly woman was taken ill with all the symptoms of ague which continued for three days, when it assumed a remitting form. This case was very tedious, there being irritation of the mucous surfaces generally, with a pulse quick and soft, urgent thirst, tongue brown and dry, almost constant delirium for two weeks. Her nervous system was a good deal shattered, had hemiplegia which lasted for two days, then gradually yielded, and she finally recovered.

I shall notice particularly but one more case, that of a man about middle age, robust and active when in health, of temperate habits, had not been well for some days, but thought he would get better in a little time, until

the disease had a more alarming hold of him than almost any I had met with. I found him resisting with all his power the progress of the malady, sitting in a reclining posture, with a belief there was not much the matter with him. Pulse slower than natural, expanded but not very strong, strength very much prostrated, tongue a chocolate colour and dry, skin hot, thirst urgent, no tenderness of abdomen; brain much oppressed, would fall asleep while you were conversing with him, no pain complained of anywhere; the peculiar breath before alluded to could not be mistaken in this case; indeed, I think I could pronounce on the character of the disease by that symptom alone. His speech was much affected, when he made an effort it was with difficulty he could articulate with sufficient distinctness to make himself understood; this was the case with many of the other patients. Although there was great prostration of strength at the time, in consequence of the symptoms of cerebral oppression, I determined on bleeding him, which relieved him considerably, his pulse became stronger and more frequent, said his head felt better, yet had not complained of it in the least, previously. Sinapisms were applied to his feet and cold vinegar and water to his head. As he had taken an active dose of senna the day before, and the alvine discharges being dark, I gave him small doses of calomel frequently repeated, to be followed by castor oil; in a short time I could perceive tenderness of the abdomen, for which the same remedies were used as before mentioned with good effect; so long as this continued his fever was high, but they subsided *pari passu*; the cerebral obstruction was not entirely removed until he was convalescent. He was recovering finely, being able to leave his room, when he was seized with diabetes mellitus, which carried him off in a few days.

From observation in this form of fever, I am persuaded a very active course of treatment is not generally required; there is danger in depleting freely and also in stimulating too early, whilst perhaps some vital organ is in a state of great congestion, simply because the strength is much prostrated and the energies of the system sunken. If they would not bear bleeding, I generally found purging of use if resorted to early in the attack. Close attention was required to notice if any unfavourable change was taking place, to apply a remedy and endeavour to prevent any organ from becoming unduly affected. It was of no use to attempt to cut short the disease by active remedies when it became fixed. It had a certain course which was of shorter duration in some cases than others, or it passed through the different stages more rapidly.

Since the foregoing was written, I have had two cases of Pneumonia, which possessed many of the symptoms of typhus fever. They were cases of typhoid pneumonia, since which there has been no case of typhus fever, although there were a few a short time previous: I believe it is generally acknowledged that the typhoid symptoms of this form of pneumonia so closely resembling typhus fever, are owing to atmospheric influences. About the year 1813, it followed closely after typhus fever, and in this instance bilious and typhus fever existed at the same time in the same neighbourhood, and even in the same family, a short time elapsing between, the latter frequently putting on the remitting form, or else recovery took place soon after the removal of the internal congestion. There was a tendency to great prostration in most cases of indisposition without regard to the nature of the attack within the period mentioned. There was no instance of one person having taken the disease from another,

unless they had become a member of the family and were living with them at the time. Neither do we find many physicians who are willing to subscribe to the contagious character of the disease from their own experience. Why need we therefore ascribe to typhus fever the direful attributes of a contagious disease, whilst bilious fever and typhoid pneumonia are viewed as an ordinary epidemic, dependent on malaria for their origin? The arguments which are brought forth to sustain the contagious nature of typhus fever, are those which would apply with equal force to bilious fever and ordinary dysentery of temperate latitudes, though it would make but little difference in the treatment of the malady, yet the moral influence which the doctrine of contagion carries with it into society is of great moment.

2d Mo. 1843.

The Mulatto a Hybrid—probable extermination of the two races if the Whites and Blacks are allowed to intermarry. By J. C. NORT, M. D., Mobile.

The reader will probably be astonished at this late day to see so novel an assertion as that the mulatto is a hybrid; but I hope he will read and ponder upon the facts given below before he concludes that it has no foundation in reason.

A writer in the Boston Medical and Surgical Journal, under the signature of "Philanthropist," has made the following important and interesting statements:—

"From authentic statistics and extensive corroborating information, obtained from sources, to me of unquestionable authority, together with my own observation, I am led to believe that the following statements are substantially correct.

1st. "That the longevity of the pure Africans is greater than that of the inhabitants of any other part of the globe."

2d. "That the mulattoes, i. e. those born of parents one being African and the other Caucasian or white, are decidedly the shortest lived of any class of the human race."

3d. "That the mulattoes are no more liable to die under the age of 25* than the whites or blacks; but from 25 to 40, their deaths are as 10 to 1 of either the whites or blacks between those ages—from 40 to 55, 50 to 1—and from 55 to 70, 100 to 1."

4th. "That the mortality of the free people of colour in the United States, is more than 100 per cent. greater than that of the slaves."

5th. "That those of unmixed African extraction in the "free states" are not more liable to sickness or premature death than the whites of their rank and condition in society; but that the striking mortality, so manifest amongst the free people of colour, is in every community and section of the country, invariably confined to the mulattoes."

The following extracts are from the same writer:—

"It was remarked by a gentleman eminent for his intellectual attainments and distinguished for his correct observation, and who had lived many years in the Southern States, that he did not believe he had ever seen a mulatto 70 years of age."

* This does not accord with my observation at the South, where a large proportion of the mulatto children die young, and where abortions amongst the mothers are common.

"From a correspondence published in the 'Boston Statesman' in April last, is taken the following statistics:—'In a population (coloured) of 2,634,348, (including the free blacks) there are 1980 over 100 years of age; whereas there are but 647 whites over 100 years of age in a population of 14,581,000.' It so happens we have before us a pamphlet published in 1827 by Dr. Niles, then a citizen of New York, now resident and well known in Paris, in which he gave a comparative statement of the mortality of the cities of Philadelphia, New York, and Baltimore, deduced from the official reports of the boards of health of the respective cities, from which it appears that in the years 1823-4, 25 and 26, the deaths were as follows:—

	In New York.	In Philadelphia.	In Baltimore.
'Whites,	1 in 40.15	1 in 31.82*	1 in 44.29
Free Blacks,	1 in 18.98	1 in 19.91*	1 in 32.02
Slaves,			1 in 77.88'

"In Boston the number of deaths annually among the coloured population is not far from 1 in 15. There are probably fewer of pure African descent among the coloured population of Boston than any other city in the United States."

"The same comparative mortality between the mulattoes and blacks exists in the West Indies and Guiana, where unfavourable social causes do not operate against the mulattoes, as in the United States."

The extracts above are from the November No. 1842, of the Boston Journal. I am rejoiced to see light breaking from this point of the compass, as the writer cannot be charged with sectional prejudice, or the influence of self-interest.

I have myself been actively engaged in the practice of medicine for the last fifteen years in the South, and in situations where the population is pretty equally divided between the blacks and whites. I was soon struck by certain facts connected with the mulattoes, and my attention since has been turned to their peculiarities. My observation has led me to the following conclusions:—

1st. That the mulattoes are intermediate in intelligence between the whites and blacks.

2d. That they are less capable of endurance and are shorter lived than the whites or blacks.

3d. That the mulatto women are particularly delicate—are subject to many chronic diseases, and especially derangement of the catamenia, prolapsus uteri, leucorrhœa, and other diseases peculiar to females.

4th. That the women are bad breeders and bad nurses—many of them do not conceive at all—most are subject to abortions, and a large portion of their children die at an early age.

5th. That the two sexes when they intermarry are less prolific, than when crossed on one of the parent stocks.

6th. That the above facts apply with more force to the Terceroons and Quarteroons than to Mulattoes.†

7th. That during the severe epidemics of Yellow fever in Mobile in the

* [These statistics are incorrect. The actual mortality in Philadelphia as shown by Dr. Emerson, (see the No. of this Journal for Nov. 1831,) is for the whites 1 in 42.3, and for the blacks 1 in 21.7.—EDITOR.]

† Under the general term Mulatto, I shall for brevity include, Terceroons, Quarteroons, Quinteroons, &c.

years 1837, '39, and '42, I did not see a single individual attacked with this disease, who was in the remotest degree allied to the Negro race—I heard, however, of one or two cases in the practice of others.

I have thus far laid down what I believe to be truths—though the general rules, strong as they are, will be found subject to many exceptions. If true, they open to the philosopher and philanthropist a wide field for exploration. I will here attempt nothing more than to throw out some materials for reflection.—I am well aware that my assertions would have much greater weight, if they were supported by statistics; but the habits and condition of the Mulattoes in the South render it extremely difficult to obtain satisfactory statistics—they would rest upon my veracity alone. In the Northern cities ample materials exist, for investigating this subject, and I hope it will be taken up by some one who will do it justice.

The space here allowed would not permit, nor does my present purpose require, that I should enter fully into the discussions on the natural history of the human race, or the many definitions which have been given of the term *species*. The Caucasian, Ethiopian, Mongol, Malay, and American may have been distinct creations, or may be mere varieties of the same species, produced by external causes acting through many thousand years; but this I do believe, *that at the present day the Anglo-Saxon and Negro races are, according to the common acceptance of the terms, distinct species, and that the offspring of the two is a Hybrid.*

Look first, upon the Caucasian female with her rose and lily skin, silky hair, Venus form, and well chiseled features—and then upon the African wench, with her black and odorous skin, woolly head and animal features—next compare their intellectual and moral qualities, and their whole anatomical structure, and say whether they do not differ as much as the swan and the goose, the horse and the ass, or the apple and pear trees. How all this comes to pass is not for me to say—it has pleased the Creator, at some period of time, so to make or change them. The American Indian too, though living in all latitudes and in a savage state; besides his hair, beardless chin, well shaped foot and leg, and tawny skin, has many other peculiarities which are just as striking.

I have said that the Mulatto is a *Hybrid*. By this term is understood the offspring of two distinct species—as the mule from the horse and the ass. This is a very curious subject, on which much might be said; but I have space for but a very few general remarks. There are a great variety of hybrids running through the whole chain of animated nature, from man down through both animal and vegetable kingdoms. Some hybrids do not breed, as the mule. There are instances of their having propagated when crossed back on one of the parent stocks. There are other hybrids which do propagate perfectly, as the offspring of the he-goat and ewe—the goldfinch and Canary birds, the *Cygnoides* (Chinese goose) and common goose, &c. &c.

Hybrids when bred together have a tendency to run out and change back to one of the parent stocks. This has been remarked of the Mulattoes in the West Indies, and there are now in Mobile families of children from the same parents, some of whom are nearly white and others nearly black, and there is every reason to believe that the mothers have been faithful to their husbands.

A general law laid down by naturalists is, that the hybrid derives its

size and internal structure principally from the mother, and a striking example is given in the mule. The mule, or offspring of the mare and jack, is a large and powerful animal, having the internal organization of the mother. The Bardeau, on the contrary (the offspring of the stallion and jenny), is a small and comparatively worthless animal.

As many of these hybrids are governed by different laws, is it not reasonable that the human hybrid may also have its peculiar laws—may not one of these laws be (which might be inferred from the foregoing data) that the Mulatto or Hybrid is a degenerate, unnatural offspring, doomed by nature to work out its own destruction?

The statistics given by "Philanthropist" prove that the Mulattoes are much shorter lived, and it is a common subject of remark in the Southern States, that they are more liable to be diseased, and less capable of endurance than the whites or blacks of the same rank and condition. What then could we expect in breeding from a faulty stock—a stock which has been produced by a violation of nature's laws, but that they should become more degenerate in each successive generation? We know that the parent will transmit to the child not only his expression, external form, character, temperament, &c., but even diseases through many generations, as gout, scrofula, consumption, &c.; why then may not that defective internal organization, which leads to ultimate destruction, exist in the Mulatto?

Estwick and Long, who are high authorities, in their histories of Jamaica, both assert unhesitatingly, that the male and female Mulatto do not produce so many children together, as if they were united respectively to negresses or Europeans. I am, too, credibly informed that these facts are verified in New Orleans, and that in that city there are many instances where families have run out so completely as to leave an estate without an heir to claim it.*

It has been asserted by writers, that when the grade of Quinteroon is arrived at, all trace of black blood is lost, and that they cannot be distinguished from the whites. Now if this be true, most of the Mulattoes must cease to breed before they arrive at this point of mixture; for though I have passed most of my life in places where the two races have been mingling for many generations, I have rarely if ever met an individual tainted with black blood, in whom I could not detect it without difficulty. These higher grades should be extremely common if the chain was not broken by death and sterility. How else can the fact be accounted for?

Virey, a distinguished French naturalist, states, that the connections between Europeans and the women of New Holland are very seldom prolific! This looks very like some difference in species.

There are also some curious facts connected with the brain and intellectual faculties, which bear strongly on the question of distinct species.

It is well settled by anatomists and physiologists, that the brain of the Negro compared with the Caucasian, is smaller by a full tenth, that its nerves are larger, the head differently shaped, the facial angle less, and the intellectual powers comparatively defective. In the white race the fact is

* I would here remark, that there is a mixed race in New Orleans and Mobile, of French and Spanish blood with the negro, which presents a very different appearance from the chalky Mulattoes of the Atlantic States. They have a redder skin than the latter, are more robust, healthy, and superior in every respect. My remarks are meant to apply particularly to the Anglo-Saxon cross.

notorious that the child derives its intellect much more from the mother than the father. It is an old remark, *that a stupid mother never produces an intelligent family of children.* Look the world over, and ask who are the mothers of the eminent men, and it will be found that there are few exceptions to the rule, that the mothers are above and most of them far above mediocrity; but this law is reversed when the white man is crossed upon the negress, or Indian woman—in the offspring the brain is enlarged, the facial angle increased, and the intellect improved. Every observer in the South will tell you that the Mulattoes have more intelligence than the blacks, and we know that the leading men amongst the Indians are the mixed class.

The Mulattoes do not make good slaves, and are always leaders in insurrections.

Buffon and other naturalists assert that *in Hybrids the head resembles the father.* In the mule it resembles the ass—in the bardeau it is long, lean, with short ears like the horse. This law holds in other hybrids, and bears strongly on the question before us.

Lawrence, than whom there is no better authority, says, “the intellectual and moral character of the Europeans is deteriorated by the mixture of black or red blood; while on the other hand an infusion of white blood tends in an equal degree to improve and ennoble the qualities of the dark varieties.”

These remarks, though hastily drawn up, are the result of many years' observation; and I am satisfied that full investigation will show that they are substantially true. Every intelligent reader will see the many important bearings of this subject, and I hope it will fall into the hands of some one who has more ability and more leisure to bestow on it. If I can start the ball my object is accomplished.

Case of Artificial Anns. By R. G. WHARTON, M. D., of Grand Gulf, Mississippi.

I was called in August, 1841, to see a negro child five or six days old, belonging to Mr. D. G. Humphreys, whose umbilical cord had sloughed off close to the abdomen, leaving a circular opening at least one and a half inches in diameter, penetrating through the abdominal parietes and a corresponding portion of the intestinal canal. The gut adhered firmly to the circumference of the abdominal opening, and the bowels were evacuated exclusively through this channel. I could not ascertain what was the cause of the sloughing. Its general health was good, though it suffered a good deal from occasional paroxysms of pain proceeding apparently from the irritation of the ulcerated opening. The inner surface of the exposed portion of the intestine was of a very deep red, owing probably to its exposure to the external air. I ordered simple poultices of powdered slippery elm, made with the infusion of oak bark, to be constantly applied with a tolerably firm bandage, and emollient and oily enemata several times a day, to excite the action of the lower bowels. This last means afforded great relief to the pain, and after a few days fecal matter was discharged in small quantities, per anum. The local applications were occasionally varied; and under this treatment the umbilical opening gradually contracted, so that in three or four months it had become quite small, only a small quantity of the fluid portion of the fecal matter passing through it. I then touched

it with argent. nit., which formed an eschar, and I supposed it had healed long ago, as I ordered it to be touched occasionally. At present (May, 1843), however, there still remains a small circular ulcerated surface, very red, about two lines in diameter, from which there is a slight oozing of the watery part of the contents of the intestinal canal. This circular ulcer is surrounded by a large circular cicatrix, showing the original seat, though contracted about one third of the primary opening. I ordered the application of the nit. argent., and had the child watched so as to prevent his rubbing off the eschar, which seems to be the cause of its not having closed up before now. The child is large for its age, and perfectly healthy.

Operations for Fissure of the Soft and Hard Palate.—There is a very interesting paper on this subject in the last No. of the *New England Quarterly Journal of Med. and Surg.* by Dr. J. MASON WARREN. The author, after briefly noticing the different forms under which the fissures of the palate may present themselves, and giving a slight sketch of the operations which have been proposed for their relief, relates the following case, which illustrates the method practised by him.

“The patient was a young man, 25 years old, with a congenital fissure of the soft and hard palate, the bones being separated quite up to the alveolar processes, with a deviation to the left side. On looking into the mouth, the whole posterior fauces were exposed, with the openings of the eustachian tubes and the bottom of the nasal cavity of the left side distinctly visible. The speech of the patient was rendered so indistinct, by this misfortune, that it was with the greatest difficulty that he could make himself understood. Deglutition had always been imperfectly performed, liquids, particularly, being swallowed with much difficulty, and often regurgitated through the nose. At the first glance the soft parts were scarcely perceptible, being almost concealed in the sides of the throat from the action of the muscles. On being seized by a forceps they could be partially drawn out, though with great resistance. So far as any of the old methods were applicable to the relief of this extensive fissure, the patient was beyond surgical aid. I determined, however, to put in practice the operation which had before appeared to me practicable.

“The patient was placed in a strong light, his mouth widely opened, and the head well supported by an assistant; with a long, double-edged knife, curved on its flat side, I now carefully dissected up the membrane covering the hard palate; pursuing the dissection quite back to the root of the alveolar processes. By this process, which was not effected without considerable difficulty, the membrane seemed gradually to unfold itself, and could be easily drawn across the very wide fissure. A narrow slip was now removed from the edges of the soft palate, and with it the two halves of the uvula. By this means a continuous flap was obtained, beginning at the roots of the teeth and extending backwards to the edges of the *velum palati*. Finally, six sutures were introduced, on tying of which the whole fissure was obliterated. The patient was directed to maintain the most perfect quiet, and to abstain from making the slightest efforts to swallow even the mucus which collected in the throat, which was to be carefully sponged out as occasion required.

“The following day he was doing well. He complained of some pain, or rather a sensation of excessive emptiness of the bowels, which was relieved by the use of a hot spirituous fomentation. On the third day, a slight hacking cough commenced, owing to the collection of thick ropy mucus in the throat and air-passages. The cough was temporarily relieved by an injection of a pint of oat-meal gruel into the rectum; during the night, however, it again increased so much as to tear away the upper and lower ligatures. I now allowed him to take liquid nourishment, which at once quieted the irritation of the throat. The other four ligatures were removed on the following days, the last being left until the 6th after the operation. This patient returned home

into the country at the end of three weeks, a firm fleshy palate being formed behind, and half the fissure in the bony palate obliterated.

"In the following spring I again operated on the remaining fissure in the hard palate, and succeeded in closing about half the extent of it, the tissues yielding with some difficulty, owing to the inflammation caused by the former operation. The small aperture which remained I directed to be closed by a gold plate. His speech was very much improved at once as well as the powers of deglutition, and he will, no doubt, ultimately, as the soft parts become more flexible, to a great degree recover the natural intonations of the voice."

Since performing this operation, Dr. W. says, "that he has had occasion to repeat it in thirteen different cases, which with one exception have terminated successfully, either in the closure of the whole fissure, or of both hard and soft palate, or so far that the aperture which remained in the bones could be easily closed by an obturator fitted to the adjoining teeth."

Dr. W. offers the following remarks on various interesting circumstances which have been presented, both in the forms of this affection, and in the method of operation.

"1st. As regards the fissure itself. In all patients which have thus far come under my notice, the direction of the fissure has been towards the left side of the jaw; and with infants on whom I have been called to perform the operation of hare lip complicated with the above malformation, the jaw has been invariably divided to the left side of the median line. I have observed also, in simple hare-lip, that the preference is to the left side of the face, and to this I have seen but a single exception. It will be generally found in those cases where the fissure of the maxillary bones is complete, that the bones forming the roof of the mouth are forced upwards, as it were, the palatine process of the superior maxillary bone of the right side being continuous with the vomer. This circumstance much increases the difficulty of the operation in this region, making the mucous membrane less accessible, which when detached and dragged into the horizontal line of course loses its support from the bones behind, at least this will be the case where the obliquity of the bones is considerable.

"It would naturally be supposed, that from the want of protection to the mucous membrane lining the nostrils and posterior fauces, and the immediate contact of air and of foreign substances, the patient would be more liable to inflammatory affections of these parts; this, however, on inquiry, was not found to be the case, none of them being more than ordinarily liable to catarrhal attacks.

"*Operation.*—The following is the method I have usually adopted.

"The patient is placed on a low seat, in a strong light, his head firmly supported on the breast of an assistant, who raises or depresses it as circumstances may require. He is directed to keep the jaws widely separated, to retain any blood which may collect as long as possible, so as not to embarrass the operator, and restrain all efforts at coughing. To do this will require constant warnings and encouragement on the part of the surgeon, as there is a natural tendency to close the mouth as soon as any pain is felt, or there arises any collection of blood or mucus in the fauces which interferes with respiration. The use of a speculum, as directed by some operators, is altogether inadmissible; it not only obscures the light, but also prevents the proper manœuvres of the instruments. The mucous membrane of the hard palate is now to be carefully separated from the bones with a long, double-edged bistoury, curved on its flat side, and is rather peeled than dissected off, from the difficulty of making any sawing motion with the knife in this confined situation, the obstacles always being greater in proportion to the obliquity of the palatine vault. As the dissection approaches to the connection of the soft parts with the edges of the ossa palati, where the muscles are attached and the union most intimate, great care must be taken or the mucous membrane will be perforated, and from these causes I have found this part of the operation to be the most embarrassing. As soon as this dissection is terminated, it will generally be found that by seizing the soft

palate with a forceps it can be easily brought to the median line. If the fissure is wide, and this cannot be effected, I have found the following course to be invariably followed by success. The soft parts being forcibly stretched, a pair of long, powerful French scissors, curved on the flat side, are carried behind the anterior pillars of the palate; its attachments to the tonsil and to the posterior pillar are now to be carefully cut away, on which the anterior soft parts will at once be found to expand, and an ample flap be provided for all desirable purposes.

"The edges of the palate may now be made into a raw surface by seizing them on either side with a hooked forceps and removing a slip with the scissors or a sharp-pointed bistoury. Our next object is to insert the ligatures, and for this purpose an immense armory of instruments have been invented. After the trial of nearly all of them I have found the most simple to be the most effectual. A small curved needle being armed with a strong silk thread, confined in a forceps with a movable slide, is introduced to the upper edge of the fissure, the needle being carried from before backwards on the left side, and from behind forwards on the right, or vice versa. In this manner, three, four or more ligatures may be successively introduced. The patient is now requested to clear his throat of mucus and blood, the ligatures are wiped dry and waxed, and tied with deliberation, beginning at the upper and proceeding gradually downwards, waiting a little between each ligature, in order to allow the throat to accommodate to this sudden and almost insupportable tension of the soft parts. No forceps are required for holding the first knot while the second is tied; the object is better effected by using the surgeon's knot, that is, by making two turns of the thread instead of one, and by enjoining perfect quiet on the patient for the moment, until the second knot is tied. It has been advised by some surgeons to wait a certain length of time, after the cutting part of the operation, before inserting the ligatures; five or six hours for instance, to allow all bleeding from the wound to cease. This appears to me a useless prolonging of the patient's suffering, and entirely unnecessary. I have never seen, in a single instance, either in the operations of surgeons abroad or in my own experience, any hemorrhage, that a little iced water, or the pressure for a short period with the finger, would not easily arrest. The after treatment will not here require any notice, as it has been sufficiently noted in the previous detail of the cases.

"In all the operations of this kind which I have lately had occasion to perform, the ligatures have been removed at the end of 48 hours, or at the farthest three days, and to this circumstance may be partly attributed the successful termination. If the threads be allowed to remain until the 4th, 5th, or 6th day, as recommended and practised by Roux, the apertures left by them will be of such magnitude as almost to approach each other, and to weaken the parts so as to cause a separation on any untoward motion of the patient."

In regard to the best plan to be pursued when we are called on to advise upon the affection at the time of birth, Dr. W. observes:—"At this early period, nothing of course can be done in the way of a surgical operation on the palate; much, however, may be effected by a judicious plan of treatment, to reduce and even close the aperture in the bones, and reduce the fissure of the soft palate to a simple state, and thus give the patient a better chance for recovering his voice as he advances in life. Our object may be effected in two ways: 1st, by the early operation of the hare-lip, with which the fissure of the bones is generally complicated; 2d, by the use of mechanical means.

"For some years I have been accustomed, even in cases of simple hare-lip, to recommend the operation to be done earlier than is usually laid down by surgical writers, and lately, since the attention of the profession has been called to the subject by the excellent paper of Dr. Peirson, of Salem, have performed it as soon after birth as possible. The advantages of this early operation will be at once seen—the pins may be removed in 48 hours, and the child is able to nurse as soon as the mother is ready to receive it at the breast. If the palate is fissured the advantages are doubled, and it is surprising with what rapidity the edges of the bones are approximated when muscular action of the lips is brought

to bear on them. It is also a question to determine whether the teeth would ever approximate if the hare-lip was allowed to remain."

The expediency of an early operation for hare-lip is also advocated by Mr. Houston of Dublin, whose interesting observations on the subject we published in our No. for July, 1842, p. 118, *et seq.*

Treatment of Vascular Nævus.—Prof. N. R. SMITH, of Baltimore, has devised the following method of treating vascular nævus. He saturates a thread with a saturated solution of caustic potash. This is dried by a fire, and a needle being armed with it, the base of the tumour is transfixed with the needle, and the thread quietly drawn through the part. This is repeated in different parts of the tumour. Dr. S. states that he has now under care a case treated by this plan, and the tumour is rapidly wasting, without any distressing symptoms having occurred.—*Maryland Med. and Surg. Journ.*, March, 1843.

Contagiousness of Puerperal Fever.—Dr. OLIVER W. HOLMES, in a paper, in our cotemporary the *New England Quarterly Journal of Medicine and Surgery*, (for April 1843), has adduced a very strong array of evidence, to show that the disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses. In addition to a great number of facts collected from various sources, and some of which have been already presented in this Journal, Dr. H. gives the three following statements which are now for the first time made public. All the cases referred to occurred within the state of Massachusetts, and two of the three series in Boston and its immediate vicinity.

"I. The first is a series of cases which took place during the last spring in a town at some distance from this neighbourhood. A physician of that town, Dr. C., had the following consecutive cases.

No. 1, delivered March 20, died March 24.

2, " April 9, " April 14.

3, " 10, " " 14.

4, " 11, " " 18.

5, " 27, " May 3.

6, " 28, Had some symptoms, recovered.

7, " May 8, Had some symptoms, also recovered.

"These were the only cases attended by this physician during the period referred to. 'They were all attended by him until their termination, with the exception of the patient No. 6, who fell into the hands of another physician on the 2d of May. (Dr. C. left town for a few days at this time.) Dr. C. attended cases immediately before and after the above-named periods, none of which, however, presented any peculiar symptoms of the disease.'

"About the first of July, he attended another patient in a neighbouring village, who died two or three days after delivery.

"The first patient, it is stated, was delivered on the 20th of March. 'On the 19th, Dr. C. made the autopsy of a man who died suddenly, sick only 48 hours; had œdema of the thigh, and gangrene extending from a little above the ankle into the cavity of the abdomen.' Dr. C. wounded himself, very slightly, in the right hand during the autopsy. The hand was quite painful the night following, during his attendance on the patient No. 1. He did not see this patient after the 20th, being confined to the house, and very sick from the wound just mentioned, from this time until the third of April.

"Several cases of erysipelas occurred in the house where the autopsy mentioned above took place, soon after the examination. There were also many cases of erysipelas in town at the time of the fatal puerperal cases which have been mentioned.

"The nurse who laid out the body of the patient No. 3, was taken on the evening of the same day with sore throat and erysipelas, and died in ten days from the first attack.

"The nurse who laid out the body of the patient No. 4, was taken on the

day following with symptoms like those of this patient, and died in a week, without any external marks of erysipelas.

"No other cases of similar character with those of Dr. C. occurred in the practice of any of the physicians in the town or vicinity at the time. Deaths following confinement have occurred in the practice of other physicians during the past year, but they were not cases of puerperal fever. No post-mortem examinations were held in any of these puerperal cases."

Some additional statements in this letter are deserving of insertion.

"A physician attended a woman in the immediate neighbourhood of the cases numbered 2, 3 and 4. This patient was confined the morning of March 1st, and died on the night of March 7th. It is doubtful whether this should be considered a case of puerperal fever. She had suffered from canker, indigestion and diarrhoea for a year previous to her delivery. Her complaints were much aggravated for two or three months previous to delivery; she had become greatly emaciated, and weakened to such an extent, that it had not been expected that she would long survive her confinement, if indeed she reached that period. Her labour was easy enough; she flowed a good deal, seemed exceedingly prostrated, had ringing in the ears, and other symptoms of exhaustion; the pulse was quick and small. On the second and third day there was some tenderness and tumefaction of the abdomen, which increased somewhat on the fourth and fifth. He had cases in midwifery before and after this, which presented nothing peculiar."

"It is also mentioned in the same letter, that another physician had a case which happened last summer and another last fall, both of which recovered.

"Another gentleman reports a case last December, a second case five weeks and another three weeks since. All these recovered. A case also occurred very recently in the practice of a physician in the village where the eighth patient of Dr. C. resides, which proved fatal. 'This patient had some patches of erysipelas on the legs and arms. The same physician has delivered three cases since, which have all done well. There have been no other cases in this town or its vicinity recently. There have been some few cases of erysipelas.' It deserves notice that the partner of Dr. C., who attended the autopsy of the man above-mentioned and took an active part in it; who also suffered very slightly from a prick under the thumb nail received during the examination, had twelve cases of midwifery between March 26th and April 12th, all of which did well, and presented no peculiar symptoms. It should also be stated, that during these 17 days he was in attendance on all the cases of erysipelas in the house where the autopsy had been performed.

"I owe these facts to the prompt kindness of a gentleman whose intelligence and character are sufficient guaranty for their accuracy.

"The two following letters were addressed to my friend Dr. Storer, by the gentlemen in whose practice the cases of puerperal fever occurred. His name renders it unnecessary to refer more particularly to these gentlemen, who on their part have manifested the most perfect freedom and courtesy in affording these accounts of their painful experience.

"JAN. 28, 1843.

"II. *** 'The time to which you allude was in 1830. The first case was in February, during a very cold time. She was confined the 4th, and died the 12th. Between the 10th and 28th of this month, I attended six women in labour, all of whom did well except the last, as also two who were confined March 1st and 5th. Mrs. E., confined Feb. 28th, sickened, and died March 8th. The next day, 9th, I inspected the body, and the night after attended a lady, Mrs. B., who sickened, and died 16th. The 10th, I attended another, Mrs. G., who sickened, but recovered. March 16th, I went from Mrs. G.'s room to attend Mrs. H., who sickened, and died 21st. The 17th, I inspected Mrs. B. On 19th, I went directly from Mrs. H.'s room to attend another lady, Mrs. G., who also sickened, and died 22d. While Mrs. B. was sick, on 15th, I went directly from her room a few rods, and attended another woman, who was not sick,

Up to 20th of this month I wore the same clothes. I now refused to attend any labour, and did not till April 21st, when having thoroughly cleansed myself, I resumed my practice, and had no more puerperal fever.

“The cases were not confined to a narrow space. The two nearest were half a mile from each other, and half that distance from my residence. The others were from two to three miles apart, and nearly that distance from my residence. There were no other cases in their immediate vicinity which came to my knowledge. The general health of all the women was pretty good, and all the labours as good as common except the first. This woman, in consequence of my not arriving in season, and the child being half born some time before I arrived, was very much exposed to the cold at the time of confinement, and afterwards, being confined in a very open, cold room. Of the six cases, you perceive only one recorded.

“In the winter of 1817, two of my patients had puerperal fever, one very badly, the other not so badly. Both recovered. One other had swelled leg, or phlegmasia dolens, and one or two others did not recover as well as usual.

“In the summer of 1835 another disastrous period occurred in my practice. July 1st, I attended a lady in labour, who was afterwards quite ill and feverish; but at the time I did not consider her case a decided puerperal fever. On 8th, I attended one who did well. On 12th, one who was seriously sick. This was also an equivocal case, apparently arising from constipation and irritation of the rectum. These women were ten miles apart, and five from my residence. On 15th and 20th, two who did well. On 25th, I attended another. This was a severe labour, and followed by unequivocal puerperal fever, or peritonitis. She recovered. August 2d and 3d, in about twenty-four hours I attended four persons. Two of them did very well; one was attacked with some of the common symptoms, which, however, subsided in a day or two, and the other had decided puerperal fever, but recovered. This woman resided five miles from me. Up to this time I wore the same coat. All my other clothes had frequently been changed. On 6th, I attended two women, one of whom was not sick at all; but the other, Mrs. L., was afterwards taken ill. On 10th, I attended a lady, who did very well. I had previously changed all my clothes, and had no garment on which had been in a puerperal room. On 12th, I was called to Mrs. S., in labour. While she was ill, I left her to visit Mrs. L., one of the ladies who was confined on 6th. Mrs. L. had been more unwell than usual, but I had not considered her case any thing more than common till this visit. I had on a surtout at this visit, which, on my return to Mrs. S., I left in another room. Mrs. S. was delivered on 13th with forceps. These women both died of decided puerperal fever.

“While I attended these women in their fevers, I changed my clothes, and washed my hands in a solution of chloride of lime after each visit. I attended seven women in labour during this period, all of whom recovered without sickness.

“In my practice I have had several single cases of puerperal fever, some of whom have died, and some have recovered. Until the year 1830, I had no suspicion that the disease could be communicated from one patient to another by a nurse or midwife; but I now think the foregoing facts strongly favour that idea. I was so much convinced of this fact, that I adopted the plan before related.

“I believe my own health was as good as usual at each of the above periods. I have no recollection to the contrary.

“I believe I have answered all your questions. I have been more particular on some points, perhaps, than necessary; but I thought you could form your own opinion better than to take mine. In 1830, I wrote to Dr. Channing a more particular statement of my cases. If I have not answered your questions sufficiently, perhaps Dr. C. may have my letter to him, and you can find your answer there.*

* In a letter to myself, this gentleman also stated, “I do not recollect that there was any erysipelas or any other disease particularly prevalent at the time.”

“BOSTON, Feb. 3, 1843.

“III. ‘MY DEAR SIR,—I received a note from you last evening, requesting me to answer certain questions therein proposed, touching the cases of puerperal fever which came under my observation the past summer. It gives me pleasure to comply with your request, so far as it is in my power so to do, but owing to the hurry in preparing for a journey, the notes of the cases I had then taken were lost or mislaid. The principal facts, however, are too vivid upon my recollection to be soon forgotten. I think, therefore, that I shall be able to give you all the information you may require.

“All the cases that occurred in my practice took place between the 7th of May and the 17th of June, 1842.

“They were not confined to any particular part of the city. The two first cases were patients residing at the south-end; the next was at the extreme north-end, one living in Sea street, and the other in Roxbury. The following is the order in which they occurred:

“Case 1. Mrs. — was confined on the 7th of May, at 5 o'clock, P. M., after a natural labour of six hours. At 12 o'clock at night, on the 9th, (thirty-one hours after confinement,) she was taken with severe chill, previous to which she was as comfortable as women usually are under the circumstances. She died on the 10th.

“Case 2. Mrs. — was confined on the 10th of June, (four weeks after Mrs. C.,) at 11, A. M., after a natural, but somewhat severe labour of five hours. At 7 o'clock on the morning of the 11th she had a chill. Died on the 12th.

“Case 3. Mrs. —, confined on the 14th of June, was comfortable until the 18th, when symptoms of puerperal fever were manifest. She died on the 20th.

“Case 4. Mrs. —, confined June 17th, at 5 o'clock, A. M., was doing well until the morning of the 19th. She died on the evening of the 21st.

“Case 5. Mrs. — was confined with her *fifth* child on the 17th of June, at 6 o'clock in the evening. This patient had been attacked with puerperal fever at three of her previous confinements, but the disease yielded to depletion and other remedies without difficulty. This time, I regret to say, I was not so fortunate. She was not attacked, as were the other patients, with a chill, but complained of extreme pain in abdomen, and tenderness on pressure, almost from the moment of her confinement. In this, as in the other cases, the disease resisted all remedies, and she died in great distress on the 22d of the same month. Owing to the extreme heat of the season, and my own indisposition, none of the subjects were examined after death. Dr. Channing, who was in attendance with me on the three last cases, proposed to have a post-mortem examination of the subject of case No. 5, but from some cause which I do not now recollect, it was not obtained.

“You wish to know whether I wore the same clothes when attending the different cases. I cannot positively say, but I should think I did not, as the weather became warmer after the first two cases; I therefore think it probable that I made a change of at least a *part* of my dress. I have had no other case of puerperal fever in my own practice for three years, save those above related, and I do not remember to have lost a patient before with this disease. While absent, last July, I visited two patients sick with puerperal fever, with a friend of mine in the country. Both of them recovered.

“The cases that I have recorded were not confined to any particular constitution or temperament, but it seized upon the strong and the weak, the old and the young—one being over 40 years, and youngest under 18 years of age.***** If the disease is of an erysipelatous nature, as many suppose, contagionists may perhaps find some ground for their belief in the fact that, for two weeks previous to my first case of puerperal fever, I had been attending a severe case of erysipelas, and the infection may have been conveyed through me to the patient; but on the other hand, why is not this the case with other physicians, or with the same physician at all times, for, since my return from the country, I have had a

more inveterate case of erysipelas than ever before, and no difficulty whatever has attended any of my midwifery cases.'

"I am assured, on unquestionable authority, that 'About three years since, a gentleman in extensive midwifery business, in a neighbouring State, lost, in the course of a few weeks, eight patients in child-bed, seven of them being undoubted cases of puerperal fever. No other physician of the town lost a single patient of this disease during the same period.' And from what I have heard in conversation with some of our most experienced practitioners, I am inclined to think many cases of the kind might be brought to light by extensive inquiry."

Cæsarian Section on a Dwarf.—This case is recorded by Dr. CYRUS FALCONER in the *Western Journal of Medicine and Surgery* for May last.

The patient was only three feet six inches in height, with ill-proportioned form. When seen by Dr. F. she had been in labour upwards of fourteen hours; the left foot of the fœtus was presenting at the os externum. On examination, Dr. F. found that "the sacrum projected towards the pubis so as to give the superior strait the character of a fissure; the antero-posterior diameter being certainly not over one inch and three-fourths. The leg of the presenting foot occupied the full breadth of the fissure, affording an evidence but too conclusive that nature was not competent to the delivery. The os uteri was well dilated, and the pains incessant and severe."

The Cæsarean section was resolved upon, and executed in the following manner:—A somewhat oblique incision was made, "beginning at the upper part, near the margin of the linea alba, crossing towards its centre in the descent towards the pubis," this being necessary "in order to get an opening large enough to extract the fœtus." When the peritoneum was opened, much difficulty was experienced in preventing the escape of the intestines. The uterus being then divided, the fœtus was exposed, its back presenting to the incision. "Although," says Dr. F., "I began my incision considerably above the umbilicus, such was the relative size of the child that I found it impracticable to extract it, until I had extended the opening in each direction; approaching nearly to the cartilage of the lower true rib above, and the pubis below. During my efforts to accomplish the delivery, considerable extravasation took place. The relative size of child and mother can only be conceived by the reader, when he remembers the height of the mother—three and a half feet—and learns that the child was about the ordinary size, weighing, by conjecture, from seven to eight pounds.

"I at length succeeded, by grasping the thighs, in elevating the breech, and delivered the child, as in a breech presentation; it soon cried lustily, and was separated from the cord. The uterus now contracted powerfully, the placenta was expelled, the extravasated blood removed as much as possible, and we then proceeded to dress the wound.

"Four or five points of the interrupted suture were employed—long adhesive strips were applied between the sutures, leaving a space at the lower portion, for the escape of any discharge that might accumulate. A broad compress was next applied, and the whole covered with a broad, firm bandage, tolerably tight.

"During the operation, the patient made very little complaint; she now said she felt very comfortable, and expressed much gratification at being relieved by an amount of suffering so much less than she had apprehended. An anodyne was administered, and finding her, at the end of a couple of hours, still comfortable and inclined to rest, I left her."

Before morning, however, inflammation was developed, and the patient died on the eighth day.

"The child did well, and is now a vigorous, healthy, and well-formed little girl."

Influenza.—This epidemic is, at the present moment, prevailing over the whole of the eastern and middle States of the Union. A very large portion of the population have been affected or are now suffering from it. In Albany a correspondent writes to us that four-fifths of the inhabitants have had it; and in

the city of New York it has prevailed to such an extent, we learn, as to seriously delay or suspend most business operations. Great numbers have suffered from the disease in Philadelphia, where it seems not yet to have reached its height.

So far as our observation has extended, the disease, though often threatening in its symptoms, has been extremely manageable.

Its onset is usually very sudden, sometimes with a chill, but most usually with the ordinary symptoms resulting from what is popularly termed having "taken cold." In most cases the disease assumes a catarrhal character—and then it is ushered in with coryza, cough, and very violent oppression of the chest; or the larynx is affected and the oppression is of a croupy character. In other cases rheumatic symptoms predominate, and the patient has the most severe pain in the back and hips,—lumbago and sciatica. In other cases again the head suffers most, and there is severe headache, injection of the conjunctiva, and more or less photophobia; whilst in others, again, there is hemicrania, severe pain in the ear, &c., the pains being of a neuralgic character, and these neuralgic pains are also experienced in some cases in the limbs. In some instances the digestive organs seem to bear the onus of the disease, and the patient has nausea, severe pain around the body just below the margin of the diaphragm, pains in the bowels, and occasionally diarrhœa. Finally, in other cases these affections are variously combined, at times one and at others another predominating, and even alternating in the same patient.

The pulse, even in the most severe cases, is little affected, the heart not sympathizing with the suffering of the other organs. The skin is generally warm at first, and sometimes dry, but perspiration is in the latter cases easily excited, and from the commencement, in most instances, there is very profuse sweating. The patient usually complains throughout the progress of the disease, of a feeling of lassitude and debility.

The disease sometimes runs its course in a few hours, in others it is protracted to five or six days, or perhaps longer.

As already intimated, the disease is very controllable by proper remedies. We have seen the oppression of the chest when most severe and threatening, and also the pain in the back and loins, promptly relieved by a mustard plaster. In other cases cups were required, which always were productive of the desired result.

In many cases a mild laxative, followed at night by a mustard pediluvium and Dover's powder, are the only remedies necessary. The cough, when troublesome, is relieved by the ordinary expectorants and sedatives.—*Medical News*, July, 1842.

Necrology.—Departed this life, in Baltimore, on the morning of the 2d of January, 1843, after a sudden and very brief illness, Professor NATHANIEL POTTER, M. D., in the 74th year of his age.

Dr. Potter was a native of Caroline County on the Eastern Shore of Maryland. The greater part of his long and useful life was passed in Baltimore, where he early achieved the eminent position in the medical profession which he retained to the last, and to which he was justly entitled by his natural abilities and by his literary and scientific acquirements. Soon after settling in this city, he exerted himself, in association with the late Dr. Davidge and others, as one of the most active agents in establishing the Medical Department of the University of Maryland. In this institution, he filled with distinguished honour for more than thirty years, and up to the time of his death, the chair of the Theory and Practice of Physic. In private and domestic life, Dr. Potter manifested many amiable virtues which will be remembered with affectionate fondness by his family and friends. As a practitioner of medicine, he was remarkable for promptitude and integrity of judgment, and for the boldness and energy of his remedial measures. As a teacher, he was perspicuous and impressive, displaying in his lectures extensive knowledge and great practical good sense, rendering his subject pleasing and attractive by his native power of wit, and illustrating and enforcing his doctrines by the ample resources of a profound and elegant erudition.—*The Maryland Med. and Surg. Journ.*, March, 1843.

UNIVERSITY OF PENNSYLVANIA.

At a Public Commencement held the 31st day of March, 1843, in the Hall of the Musical Fund Society, the following gentlemen received the Degree of Doctor of Medicine at the hands of the Rev. John Ludlow, D. D., Provost.

An address was then delivered by Dr. Hugh L. Hodge, Professor of Obstetrics.

NAME.	RESIDENCE.	SUBJECT OF ESSAY.
Arrington, Thomas C.	North Carolina,	Dysentery.
Ashton, Samuel K.	Philadelphia,	Cholera Infantum.
Baker, Charles L.	Pennsylvania,	Poisoning by Arsenic.
Ballard, Charles E.	North Carolina,	Cinchona.
Barnes, William E.	Pennsylvania,	Cholera Infantum.
Beaumont, George H.	Pennsylvania,	Human Heart.
Berkeley, Richard F.	Virginia,	Acute Hepatitis.
Best, John Milton,	Kentucky,	States of the System.
Birkhead, Edward F.	Virginia,	Gout.
Bird, John Francis,	Philadelphia,	Health and Education of Females.
Boone, Jesse T.	Ohio,	Prolapsus Uteri.
Bowling, William E.	Kentucky,	Dysent. Bylliosa.
Bradley, Samuel	South Carolina,	Acute Gastritis.
Brandon, James C.	Mississippi,	Scarlatina.
Briggs, Etheldred E.	Virginia,	Colica Biliosa.
Burgess, Jesse	Pennsylvania,	Scarlatina.
Burgin, George H. Jr.	Philadelphia,	Medical Physiognomy.
Burwell, George N.	New York,	Artificial Pupil.
Butterfield, Ralph	Massachusetts,	Intermittent Fever.
Byrd, Flavius A.	Alabama,	Inflammation of the Eye.
Campbell, Alexander H.	Pennsylvania,	Angina Pectoris.
Cary, Walter	New York,	Dysentery.
Cheatham, William A.	Tennessee,	Acute Arthritis.
Clawson, Isaiah D.	New Jersey,	Topical Depletion.
Coleman, William H.	Alabama,	Congestive Fever of the South.
Conway, James H.	Virginia,	Menstruation.
Cooper, Thomas B.	Pennsylvania,	Path. of Blood.
Coryell, Richard H.	New Jersey,	Scarlatina.
Curtis, Benjamin W.	Maine,	Catamenia.
Davis, Charles H.	Virginia,	Hemorrhages.
Dougal, James	Pennsylvania,	Dysentery.
Duffield, Samuel E.	Pennsylvania,	Arsenic.
Eddins, Simeon J.	Alabama,	Hydrops Abdom.
Elliott, James L.	Pennsylvania,	Phys. and Path. of Blood.
Fessenden, Benjamin F.	North Carolina,	Ung. Hydrarg. Nitr.
Finney, Oswald B. (M. D.)	Virginia,	Jaundice.
Gayle, Matthew	Alabama,	Nephritis.
Gower, James	Tennessee,	Calorification.
Grantland, Fleming T.	Georgia,	Typhus Fever.
Grigg, Jacob	Pennsylvania,	Apoplexy.
Hadley, John L.	Tennessee,	Typhus Fever.
Haines, Alfred C.	Ohio,	Fever.
Hall, William P.	Virginia,	Wounds of Thorax and Abdomen.
Harper, Thomas S.	Pennsylvania,	Coryza.

Harris, William A.	Philadelphia,	Iodide of Potassium.
Harrison, Benjamin S.	North Carolina,	Blood-letting.
Harvey, Elwood	Pennsylvania,	Gonorrhœa.
Harwell, Rufus S.	Tennessee,	Acute Bronchitis.
Hinton, Samuel A.	Virginia,	Fractures.
Holstein, George W.	Pennsylvania,	Datura Stramonium.
Housekeeper, Benjamin	Philadelphia,	Dropsy.
Hunter, William G. J.	Tennessee,	Abortion.
Jenkins, Wiley	Mississippi,	Pernicious Intermittent Fever.
Jones, Benjamin F.	Alabama,	Trachitis.
Jones, John R.	Pennsylvania,	Scarlatina.
Kemper, Charles R.	Virginia,	Iodide of Potassium.
Kerr, John J.	Philadelphia,	Management of Children.
Laird, Thomas H.	Virginia,	Antimonial Preparations.
Leggett, Nazareth	North Carolina,	Spontaneous Hemorrhages.
Lehman, John C.	Philadelphia,	Pertussis.
Lindsley, John B.	Tennessee,	Inflammation.
Lyman, George H.	Massachusetts,	Therap. of Water.
Macoun, Robert T.	Pennsylvania,	Chorea.
McGuire, Robert L.	Virginia,	Dyspepsia.
Martin, Gabriel S.	Georgia,	Abortion.
Mason, Thomas W.	Alabama,	Acute Hepatitis.
Mayburry, William	Pennsylvania,	Delirium Tremens.
Mercer, Thomas S.	Maryland,	Intermittent Fever.
Merritt, John	Delaware,	Acute and Chronic Hepatitis.
Metcalfe, John T.	Mississippi,	Coxalgia.
Miller, Henry C.	South Carolina,	On Remittent Fever.
Moor, George W.	Massachusetts,	Serofula.
Morrison, William O.	Louisiana,	Phys. and Path. Lymph. System.
Morton, Thomas M.	Kentucky,	Sympathy.
Moss, Robert P.	South Carolina,	Diabetes Mellitus.
Murray, Robert	Maryland,	Lead Colic.
Musgrave, George J.	North Carolina,	Hydrocephalus Internus.
Nash, Clurin V.	Alabama,	Delirium Tremens.
Newkirk, Nathaniel R.	New Jersey,	Homœopathy.
Nichols, Charles H.	Rhode Island,	Omnivorous Nature of Man.
Parham, Edward H. M.	Virginia,	Leucorrhœa.
Pearson, Richmond N.	North Carolina,	Chronic Mucro-enteric Inflammation.
Penniman, Jesse A.	Massachusetts,	Sources of Error.
Pepper, Lawrence S.	Philadelphia,	Pneumonia.
Pope, John T.	North Carolina,	Dyspepsia.
Race, Henry	New Jersey,	Influence of Mind, &c.
Raines, William N.	Virginia,	Hydrops.
Reynolds, Thomas	North Carolina,	Anchylosis.
Rickards, William M. L.	Delaware,	On Bilious Remittent Fever.
Rogers, John C.	North Carolina,	Neuralgia.
Sargent, Fitzwilliam	Philadelphia,	Nitrate of Silver.
Saunders, Thomas J.	New Jersey,	Cholera Morbus.
Schanek, John S.	New Jersey,	Articular Rheumatism.
Shivers, James K.	Philadelphia,	Pleurisy.
Simmons, Edward L.	Virginia,	Remitting Fever.
Singleton, Spyers	North Carolina,	Koino Miasma.
Slemmer, Henry T.	Pennsylvania,	Diarrhœa.
Stabler, Richard H.	Dist. of Columbia,	Arsenic.
Stockwell, Nathaniel	Mississippi,	Congestive Fever.
Stribling, Magnus W.	Virginia,	Fœtal Circulation.

Taylor, Charles H.	Pennsylvania,	Contagious Diseases.
Thomas, Jason B.	Massachusetts,	Menstruation.
Trieknor, Francis O.	Georgia,	Atmospheric Air.
Twitchell, George B.	New Hampshire,	Necrosis.
Tyler, John W.	Virginia,	Acute Dysentery.
Upshur, George L.	Virginia,	Topical Depletion.
Walke, Sydenham	Virginia,	Wounds.
Walker, William	Tennessee,	Struct. and Funct. of Iris.
Wall, Robert E.	Virginia,	Asthma.
Wellford, Robert	Virginia,	Hæmorrh. Diathesis.
Wilson, John J.	Pennsylvania,	Scarlatina.
Wilson, John R.	Virginia,	Opium.
Wilson, William B.	Pennsylvania,	Inflammation.
Wolff, Samuel	Pennsylvania,	Marsh Miasmata.

Anderson Bagley, of Virginia, Essay on Fractures of the Thigh, is also entitled to a Degree, but from an accidental informality, whereby his name was not in time for the Board of Trustees in issuing their Mandamas, the conferring of the Degree is postponed to next July.

At the Commencement held in July, 1842, the Degree of Doctor of Medicine was conferred upon

Benjamin F. Nicholls,	South Carolina,	Pleuritis.
Washington G. Ngent,	Pennsylvania,	Dropsy following Scarlet Fever.
Thomas S. Roycroft,	New York,	Dyspnœa.
Renben J. Thomas,	Virginia,	Acute Hepatitis.

Total, 118.

W. E. HORNER, *Dean of Medical Faculty.*

New Works.—Churchill's Midwifery, edited by Prof. Huxton, and illustrated with numerous wood cuts, in the same style of execution as those in Wilson's Anatomy, and Fergusson's Surgery; Carpenter's Physiology, with additions by the author, and edited by Dr. Clymer; Graham's Chemistry, edited by Dr. Bridges; Wilson Philip on Indigestion; and Brodie on the Diseases of the Joints, will be issued by Messrs. Lea & Blanchard, we are informed, in the course of the present month.

The following works are announced as in preparation for early publication by the same.—A Treatise on the Diseases of Children, by D. F. Condie, M. D.; a Medical Formulary, by Joseph Carson, M. D.; also Wilson's Practical and Surgical Anatomy, revised, &c.

PENNSYLVANIA HOSPITAL.

CLINICAL INSTRUCTION

To a private class will be given at the Pennsylvania Hospital, during the summer months, by the gentlemen having charge of the house during this period.

In the course of instruction proposed, students will be trained in the practical study of disease at the bed-side during the *daily* visits to the wards, and also have a series of lectures delivered on some of the most important subjects presenting themselves in the practice of the house. Auscultation, Fevers, Fractures, and Diseases of the Genito urinary organs, will receive particular attention.

From April to July	MEDICINE	DR. PEPPER.
" " "	SURGERY	DR. NORRIS.
From July to November	MEDICINE	DR. STEWARDSON.
" " "	SURGERY	DR. E. PEACE.

Fee for the Course, including the privilege of attending the practice of the house for one year \$30

For those already holding the ticket of the house 20

UNIVERSITY OF PENNSYLVANIA.

MEDICAL DEPARTMENT.—SESSION 1843-44.

The Lectures will commence on Monday, the 6th day of November, and be continued, under the following arrangement, to the middle of March ensuing:—

Practice and Theory of Medicine,	- - - - -	by NATHANIEL CHAPMAN, M. D.
Chemistry,	- - - - -	" ROBERT HARE, M. D.
Surgery,	- - - - -	" WILLIAM GIBSON, M. D.
Anatomy,	- - - - -	" WILLIAM E. HORNER, M. D.
Institutes of Medicine,	- - - - -	" SAMUEL JACKSON, M. D.
Materia Medica and Pharmacy,	- - - - -	" GEORGE B. WOOD, M. D.
Obstetrics and the Diseases of Women and Children,	- - - - -	" HUGH L. HODGE, M. D.

A Course of Clinical Lectures and Demonstrations, in connexion with the above, is given at the very extensive and convenient Infirmary called the Philadelphia Hospital.

Clinical Medicine,	- - - - -	by W. W. GERHARD, M. D.
Clinical Surgery,	- - - - -	" Drs. GIBSON and HORNER.

Clinical Instruction in Medicine is also given from the 1st day of November to the 1st day of March by Dr. Wood, in the Pennsylvania Hospital, an institution which is well known as one of the largest and best conducted Infirmarys in the United States.

The rooms for Practical Anatomy will be opened October 1st, and continued so to the end of the Course. They are under the charge of Paul Beck Goddard, M. D., Demonstrator, with a supervision on the part of Dr. Horner.

Extensive cabinets on Anatomy, Materia Medica, Chemistry, Surgery, and Obstetrics exist.

The Professor of Materia Medica, besides his Cabinet, has an extensive and well furnished Conservatory, from which are exhibited, in the fresh and growing state, the native and exotic Medicinal Plants.

W. E. HORNER, M. D.,

Dean of the Medical Faculty, 263 Chestnut Street, Philadelphia.

JULY 1st, 1843.

MEDICAL INSTITUTE OF PHILADELPHIA, Locust Street, above Eleventh.

The Course of Lectures commenced on Wednesday, April 5th, and will continue until the last of October ensuing, with the exception of August, which is a vacation. Fee for all the branches, \$70. For the branches separately, \$10 each.

Lectures on the Practice of Medicine by N. Chapman, M. D., and W. W. Gerhard, M. D. Anatomy, W. E. Horner, M. D. and Paul B. Goddard, M. D. General Pathology, Samuel Jackson, M. D., and Physiology, Meredith Clymer, M. D. Materia Medica and Therapeutics, John Bell, M. D. Chemistry, James B. Rogers, M. D. Obstetrics, and Diseases of Women and Children, Hugh L. Hodge, M. D. and William Harris, M. D. Principles and Practice of Surgery, Thomas Harris, M. D. and W. Poyntell Johnston, M. D.

W. E. HORNER, *Secretary.*

JULY 1st, 1843.

JEFFERSON MEDICAL COLLEGE.

SESSION OF 1843-44.

The regular Course of Lectures will commence on Monday the 6th of November, and end on the last day of February.

ROBLEY DUNGLISON, M. D., *Professor of Institutes of Medicine, &c.*

ROBERT M. HUSTON, M. D., *Professor of Materia Medica and General Therapeutics.*

JOSEPH PANCOAST, M. D., *Professor of General, Descriptive, and Surgical Anatomy.*

JOHN K. MITCHELL, M. D., *Professor of Practice of Medicine.*

THOMAS D. MÜTTER, M. D., *Professor of Institutes and Practice of Surgery.*

CHARLES D. MEIGS, M. D., *Professor of Obstetrics and Diseases of Women and Children.*

FRANKLIN BACHE, M. D., *Professor of Chemistry.*

Lectures and Practical Illustrations will be given at the Philadelphia Hospital regularly through the Course by

DR. DUNGLISON *on Clinical Medicine,*

DR. PANCOAST *on Clinical Surgery,*

and at the Dispensary of the College, by Professors of the Institution.

R. M. HUSTON, M. D.,

Dean of the Faculty.

TRANSYLVANIA UNIVERSITY, MEDICAL DEPARTMENT.

The course of instruction will open, as heretofore, on the 1st Monday of November, and close on the last day of February, under the following faculty, viz:

BENJ. W. DUDLEY, M. D., Professor of Anatomy and Surgery;
 JAMES C. CROSS, M. D., Professor of Institutes and Medical Jurisprudence;
 ELISHA BARTLETT, M. D., Professor of Theory and Practice;
 WM. H. RICHARDSON, M. D., Professor of Obstetrics and Diseases of Women and Children;
 THOS. D. MITCHELL, M. D., Prof. Mat. Medica and Therapeutics, and Dean of Faculty;
 ROBERT PETER, M. D., Professor of Chemistry and Pharmacy;
 JAMES M. BUSH, M. D., Adjunct Professor of Anatomy and Surgery;

Who will receive notes of good and solvent banks of the states whence the pupils come, without discount, for their several tickets, the aggregate sum of which is \$105. For the Matriculation and Library ticket of \$5, and the Graduation Fee of \$20, par funds are required. Boarding and Lodging, as heretofore, for two to three dollars per week. By order,

THOS. D. MITCHELL, *Dean.*

LEXINGTON, Ky., June 1st, 1843.

MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.

The regular course of Lectures in this Institution will be resumed on the second Monday in November.

Anatomy, - - - - -	by T. E. HOLBROOK, M. D.
Surgery, - - - - -	" E. GEDDINGS, M. D.
Institutes and Practice of Medicine, - - -	" S. HENRY DICKSON, M. D.
Physiology, - - - - -	" JAMES MOULTRIE, M. D.
Materia Medica - - - - -	" HENRY R. FROST, M. D.
Obstetrics, - - - - -	" THOMAS G. PRIDLEAU, M. D.
Chemistry, - - - - -	" C. U. SHEPARD, M. D.

The school for Practical Anatomy has been reorganized, and will be under the charge of Drs. Holbrook and Ogier.

Clinical Instruction at the Marine Hospital and Almshouse.

HENRY R. FROST, *Dean.*

COLUMBIAN COLLEGE, DISTRICT OF COLUMBIA.

The lectures in the Medical Department of this Institution will commence on the 1st Monday of November next, and continue until the first of March.

During this period, full courses will be delivered in the various branches of Medicine by

THOMAS SEWALL, M. D., *Professor of Pathology and the Practice of Medicine.*
 HARVEY LINDSLY, M. D., *Professor of Obstetrics and the Diseases of Women and Children.*
 THOMAS MILLER, M. D., *Professor of Anatomy and Physiology.*
 JNO. M. THOMAS, M. D., *Professor of Materia Medica and Therapeutics.*
 FREDERICK HALL, M. D., LL. D., *Professor of Chemistry and Pharmacy.*
 WM. P. JOHNSTON, M. D., *Professor of Surgery.*
 SAML. C. SMOOT, M. D., *Demonstrator of Anatomy.*

The entire expense for a course of Lectures by all the Professors is \$70. Dissecting ticket, \$10.

Good board can be procured at from \$2 50 to \$3 00 per week.

FREDERICK HALL, M. D., *Dean.*

Washington, June 1st, 1843.

WALSHE ON THE LUNGS.

LEA & BLANCHARD

HAVE JUST PUBLISHED

THE PHYSICAL DIAGNOSIS OF THE DISEASES OF THE LUNGS.

By WALTER HAYLE WALSHE, Professor in University College, London;
Physician to the Hospital for Consumption and Diseases of the Chest, &c. &c.

In 1 vol. 12mo. cloth extra.

The first part of the work includes all the physical signs derived from auscultation, percussion, inspection, manual examination, and mensuration of the chest, both in the healthy and diseased condition of the lungs; and these different subjects are handled in a concise and masterly manner.

The second part of the work is in a tabular form, and contains a full exposition of the causes and locality of the different physical signs. The names of the diseases, in which the various signs are most commonly observed, are also carefully enumerated.

The third part, comprising about one half the volume, forms a commentary upon the two preceding divisions. Under this head, various 'debateable points' are impartially discussed, and copious references made to the views entertained by different acknowledged authorities.

"It is one which no learner in auscultation can fail to possess, without losing advantages elsewhere unattainable; and it is one which very few, even among the most experienced auscultators, will consult without adding something to their previous stock of knowledge.—*British and Foreign Medical Review*.

"The book is in all respects an excellent one, and we can conscientiously recommend it as equally useful to the student and practitioner.—*Medical Gazette*.

"The object of this little book, the perusal of which will amply compensate the reader for the time spent on it, is to present a concise view of the principles and facts of physical diagnosis, as applied to diseases of the respiratory organs"—"We here close our analysis of this valuable little manual, not however, without recommending it earnestly to the careful perusal of every Medical Student, who would wish to make himself acquainted with all the modern improvements in Thoracic Semiology"—*Johnson's Medico-Chirurgical Review, London*.

"We must therefore conclude by recommending Mr Walshe's Work to the attention of our readers. No medical man, at the present day, can pretend to enter the sick chamber, unless he be prepared to supply, in practice, the knowledge derived from the just appreciation of the physical signs of disease, and there is no source to which he can look with more confidence than to the *Physical Diagnosis of the Diseases of the Lungs*."—*Lancet*.

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COMPRISING MATERIA ALIMENTARIA, DIETETIC USAGES, AND THE INFLUENCE OF CIVILIZATION ON HEALTH AND THE DURATION OF LIFE. By JOHN BELL, M.D., Lecturer on Materia Medica and Therapeutics, Fellow of the College of Physicians of Philadelphia, Member of the American Philosophical Society, &c. &c., 12mo. Barrington & Haswell.

"The subjects embraced in this valuable treatise, are of general and paramount interest to all classes in the community, and appear to be admirably adapted to popular instruction in the philosophy of Regimen and Longevity. Although addressed chiefly to the general reader, it will doubtless prove a valuable addition to the library of the medical student. The free introduction of statistical calculations in this volume, will give the reader a clearer idea of the alimentary importance and commercial value of certain substances used for food, than common notices, or even any assertion of their extraordinary dietetic value would convey.—*Hunt's Merchant's Magazine*.

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No. XII.—OCTOBER, 1843.

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"Numerous as are the works on physiology, which have, of late, issued from the press, a volume was still much wanted, which should serve as the hand-book and text book of the medical student. The "Principles of General and Comparative Physiology," of Dr. Carpenter, which have just entered upon a new edition, and which we have had occasion to mention with commendation in our last volume, had already opened the path to the extension of the labours of that author into the more important department of human physiology. The able manner in which the subject of comparative physiology was handled, the enlarged and elevated views entertained by the author, at once pointed to Dr. Carpenter as the writer by whom the obvious want in the field of human physiology was to be supplied. The volume before us is the much desired contribution to our science, for which we have long looked. In concluding our notice of this volume, we do so by recommending it most strongly to our readers, and especially to our young friends, who are preparing a foundation upon which to build their future reputation and success in life. The volume is beautifully got up; it will form an ornamental addition to the study and library."—*London Lancet*.

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THE Publishers respectfully request those Subscribers who have not remitted the amount of their dues to forward them with as little delay as possible. Much inconvenience has arisen from the delay of payment by distant subscribers, and the publishers make this earnest appeal to them; and would at the same time solicit the medical profession generally throughout the States, to aid in the wider diffusion of this long established Journal. An effort on the part of its friends to increase the subscription list, would enable the proprietors to improve the appearance of the work, increase the number of its plates, and to extend its sphere of usefulness. Devoted, as it has always been, to the best interests of the Profession, no assurances can be required that every effort will be made to maintain the character which the Journal has sustained through a long series of years, at home as well as abroad.

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## TO READERS AND CORRESPONDENTS.

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We must solicit the indulgence of our numerous correspondents whose letters remain unanswered. Almost every moment unoccupied by professional labour, is required for our editorial duties during the two months that each number of the Journal is in press; and it is only during the month succeeding the publication of a No., that we have any time to reply to correspondents.

The simultaneous communication of the same article to several journals, savours of the spirit of advertising, and gives rise to suspicion that the aim of the author is rather to spread his own fame, than to advance our science. This will explain to a correspondent the omission of a case sent to us by him, and which we had intended to publish.

Communications have been received from Drs. Jno. L. Atlee, Hull and Dexter, Kollock, Eve, Quackenbush, Fosgate, Wharton, Buel, W. L. Atlee, and Earle.

The following works have been received:—

The Dispensary of the United States of America. By Geo. B. Wood, M. D., Prof. Mat. Med. and Pharm. in the University of Pennsylvania, &c. &c. &c., and Franklin Bache, M. D., Prof. Chem. in Jeff. Med. Coll., &c. &c. Fifth edition, enlarged and carefully revised. Philadelphia: Grigg & Elliott, 1843. (From the publishers.)

On the Theory and Practice of Midwifery. By Fleetwood Churchill, M. D., M. R. I. A., &c. &c. &c., with notes and additions. By Robert M. Heston, M. D., Prof. Mat. Med. and Gen. Therap. in Jeff. Med. Coll. of Philad., &c. &c., with 116 Illustrations from Drawings by Bagge and others. Engraved by Gilbert. Philadelphia: Lea & Blanchard, 1843. (From the publishers.)

Pathological and Surgical Observations on the Diseases of the Joints. By Sir B. C. Brodie, Bart., F. R. S., Serjeant Surgeon to the King, &c. &c. &c. Fourth edition. Philadelphia: Lea & Blanchard, 1843. (From the publishers.)

A Treatise on Protracted Indigestion, and its Consequences; being the application to the Practical Department of Medicine of the Results of an Inquiry into the Laws of the Vital Functions: addressed by the Author on his retirement from the Medical profession, both to the members of that profession, and to the well educated public, particularly parents. By A. P. W. Philip, M. D., F. R. S., &c. &c. Philadelphia: Lea & Blanchard, 1843. (From the publishers.)

Elements of Chemistry, including the applications of the Science in the Arts. With numerous Illustrations. By Thomas Graham, F. R. S., Lond. and Ed., Prof. Chem. in University Coll., London, &c. &c. &c. With notes and additions, by Robert Bridges, M. D., Prof. of Gen. and Pharmaceutic Chemistry in Philadelphia College of Pharmacy, &c. &c. Philadelphia: Lea & Blanchard, 1843. (From the publishers.)

A Treatise on Food and Diet: with Observations on the Dietetical Regimen suited for disordered states of the Digestive Organs; with an account of the Dietaries of some of the principal metropolitan and other establishments for paupers, lunatics, criminals, children, the sick, &c. By Jonathan Pereira, M. D., F. R. S., L. S., &c. &c. &c. Edited by Charles A. Lee, M. D. New York: J. & H. G. Langley, 1843. (From the publishers.)

Principles of Human Physiology, with their chief applications to Pathology, Hygiène and Forensic Medicine. Especially designed for the use of Students. With over one hundred Illustrations. By Wm. B. Carpenter, M. D., Lecturer on Physiology in the Bristol Medical School, &c. First American edition, with additions by the author, and notes and additions by Meredith Clymer, M. D., Lecturer on the Inst. Med., &c. &c. Philadelphia: Lea & Blanchard, 1843. (From the publishers.)

The Spleen a Permanent Placenta; the Placenta a Permanent Spleen. By John Jackson, M. R. C. S., London. London: 1843. (From the author.)

An Inaugural Treatise on Veratrine, offered to the Dean and Faculty of the Medical College of the State of South Carolina. By Charles Rabe, of Greenville, S. C. Recommended for publication by the examining committee. Charleston, S. C.: 1843. (From the author.)

Numerous Cases of Surgical Operations, without pain, in the Mesmeric state; with remarks upon the opposition of many members of the Royal Medical and Chirurgical Society, and others, to the reception of the inestimable blessings of Mesmerism. By John Elliottson, M. D., Cantab F. R. S. Philadelphia: Lea & Blanchard, 1843. (From the publishers.)

De Erysipelate Ambulanti Disquisitio. C. E. Fenger. Havniæ: 1842. (From Prof. Otto.)

Dissertatione de Ulcere Ventriculi Perforante. E. A. Dahlerup. Havniæ: 1841. (From Prof. Otto.)

De Anatomica Pathologica pedis equini et vari Dissertatio. J. C. Weis. Arhusii: 1842. (From Dr. Otto.)

Medicinisches Correspondenz-Blatt. Erlangen. Jan., 1842. (From Prof. Otto.)

The Endemic Influence of Evil Government, illustrated in a view of the climate, topography, and diseases of the Island of Minorca; with medical statistics of a voyage of circumnavigation of the globe, and an account of other service, both ashore and afloat. By J. M. Foltz, A. M., M. D., S. U. S. N. New York, 1843. (From the author.)

The Hospitals and Surgeons of Paris: An Historical and Statistical Account of the Civil Hospitals of Paris, with miscellaneous information and biographical notices of some of the most eminent of the living Parisian Surgeons. By F. Campbell Stewart, M. D. New York: J. & H. G. Langley. Philadelphia: Carey & Hart, 1843. (From the author.)

Eleventh Annual Report of the Trustees of the Perkins Institution and Massachusetts Asylum for the Blind to the Corporation. Boston: 1843. (From Dr. Fisher.)

Address delivered before the American Society of Dental Surgeons, at the opening of its fourth Annual Meeting, Baltimore, July 18th, 1843. By Chapin A. Harris, A. M., M. D., Prof. Pract. Dentistry in the Baltimore College of Dental Surgery, &c. &c. Published by order of the Society. Baltimore, 1843. (From the author.)

Observations and Researches upon a new Solvent for Stone in the Bladder. By Alex. Ure, A. M., Surgeon to the Western Ophthalmic Institution, &c. (From the author.)

Practical Directions for the Preparation of Aerated Mineral Waters, and the various compounds of Carbonic Acid Gas, by Bakewell's patent apparatus: with observations upon the Pharmaceutical and Therapeutical agencies, and their efficacy in the cure of some of the most important diseases of the human body, viz.: indigestion, phthisis, nervous atony, or mental depression, diseases of the genito-urinary organs, &c.; with cases in illustration. By Robert Venables, A. M., M. B., &c. &c. &c. London: George Knight & Sons, 1843. (From the publishers.)

The Revenue in Jeopardy from Spurious Chemistry: demonstrated in researches upon wood-spirit and vinous-spirit. By Alex. Ure, M. D., F. R. S., &c. London, 1843. (From John Miller.)

The Charter of Incorporation and By-Laws of the Philadelphia Medical Society. Instituted in 1789. Philadelphia, 1843. (From the Society.)

Annales d'Hygiène publique et de Médecine Légale. January, April, and July, 1843. (In exchange.)

Revue Médicale. March, April, May, June, 1843. (In exchange.)

Journal des Connaissances Medico-Chirurgicales. April, May, and June, 1843. (In exchange.)

Journal de Médecine et de Chirurgie Pratiques, April, May, June, July, 1843. (In exchange.)

La Lancette Française, Gazette des Hôpitaux. April, May, June, July, 1843. (In exchange.)

L'Expérience, Journal de Médecine et de Chirurgie. March, April, May, June, July, 1843. (In exchange.)

Gazette Médicale de Paris. April, May, June, 1843. (In exchange.)

Journal des Connaissances Médicales Pratiques et de Pharmacologie. April, May, June, and July, 1843. (In exchange.)

Journal de Pharmacie. March, April, May, June. (In exchange.)

Bulletin Bibliographique des Sciences Médicales et des Sciences qui s'y Rapportent. Jan., Feb., March, 1843. (In exchange.)

The Provincial Medical Journal and Retrospect of the Medical Sciences. June and July, 1843. (In exchange.)

The Medical Times. June and July, 1843. (In exchange.)

The Dublin Medical Press. June, July, 1843. (In exchange.)

The British and Foreign Medical Review. July, 1843. (In exchange.)

The Edinburgh Medical and Surgical Journal. July, 1843. (In exchange.)

The Medico-Chirurgical Review. July, 1843. (In exchange.)

Braithwaite's Retrospect of Practical Medicine and Surgery. Jan. and July, 1843. (In exchange.)

London and Edinburgh Monthly Journal of Medical Science. July and Aug., 1843. (In exchange.)

London Medical Gazette. April, May, and June, 1843. (In exchange.)

The Select Medical Library. July, 1843. (In exchange.)

The Bulletin of Medical Science. July, August, and September, 1843. (In exchange.)

The Western Lancet. June, July, and August, 1843. (In exchange.)

The Boston Medical and Surgical Journal. July, August, and September 1843. (In exchange.)



The Medical Examiner. July, August, and September, 1843. (In exchange.)

The St. Louis Medical and Surgical Journal. June and July, 1843. (In exchange.)

The American Journal of Science and the Arts. July, 1843. (In exchange.)

The American Journal of Pharmacy. July, 1843. (In exchange.)

The New York Journal of Medicine and the Collateral Sciences. July and September, 1843. (In exchange.)

The Western Journal of Medicine and Surgery. July and August, 1843. (In exchange.)

The India Journal of Medical and Physical Science. Feb., 1843. (In exchange.)

Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to ISAAC HAYS, M. D., Editor of the Amer. Journ. of Med. Sci., care of Messrs. Lea & Blanchard, Philadelphia. Parcels directed as above, and sent (carriage paid) under cover, to John Miller, Henrietta Street, Covent Garden, *London*, or to Wiley & Putnam, *New York*, or W. D. Ticknor, *Boston*, will reach us safely. We particularly request the attention of our foreign correspondents to the above, as we are often subjected to unnecessary expense for postage and carriage.

All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Lea & Blanchard.

¶ The advertisement sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers, under whose exclusive control it is.

We invite attention to the following quære. An article is met with in the Philadelphia market, called "oil of cedar," which is *supposed* to be obtained from the *red cedar*; but we can obtain no authentic information as to its real source.

*Oil of Cedar.*—Can any of our correspondents inform me, from what plant the *oil of cedar* is obtained? I am induced to make the inquiry, from the rapid manner in which it appears to destroy life, when taken in any quantity. I have recorded a case that occurred in Saratoga county, in this State, where a man died in half an hour after swallowing some; and, again, during the present summer, another instance is mentioned, of a man dead in Maine, in half an hour, from the same cause. It has been suggested that it is the *oil of savine*; but I should suppose, that if derived from that plant, it would bear its name, as it is quite a common shrub. This oil (of cedar) is doubtless the product of distillation. Has that process been driven too high, or is it sold, mixed with alcohol of a high proof?

T. R. B.

*Albany, N. Y., August 31, 1843.*

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ART. I.—*Observations on Cerebral Auscultation.* By S. S. WHITNEY,  
M. D., of Newton, Mass.

WHENEVER new doctrines or new theories are held up for public consideration, whatever relation to science they may seem to bear, their declaration should be received, only after a most rigid and careful examination of the principles upon which they are based. The progress of science and sound philosophy need no other, and should sustain no other material within its noble superstructure, than that which has passed the *severest test* of experiment and of fact. Could the real interests of science be promoted by any other, or by more partial means, even then a proper respect for the usages of age, and for opinions which have been long received and entertained, would seem to allow of no milder alternative.

Yet, on the other hand, a too obstinate and inflexible adherence to doctrines, because they bear the "impress of age," would as certainly retard the progress of true philosophy, as that laxness of reason, which would allow every induction of sense to be counted of equal weight to the most obvious and practical truths. So far, therefore, as the means are within our reach and can be made available, every thing relating to science or philosophy, should be made as plain and unequivocal as experiments and matters of fact can render it.

Perfect precision, in investigating the causes of phenomena which are continually varying, is not easily attained; and although we may not expect every science to be made an "exact science," nor every phenomenon to be as constant and unalterable in its phasis as the "nine digits" of enumeration, yet we *are* to expect that out of the confused and huddled mass of phenomena which ages of conjectural observation have *scrambled* together, a more

sincere and enlightened regard for its true object will discover and arrange the elements of a purer and more chastened philosophy. This, indeed, in many instances, has already been accomplished; and whenever the period shall arrive, in which it shall become universal in its application, a new and important era will have dawned upon every branch of science: but upon none a brighter, and one of more importance in its application, than upon that which is so intimately connected with the physical constitution of man; for over none, has fancy thrown such a complicated and inexplicable network of theory, conjecture and strange deductions of sense, as it has over that branch of philosophy which should discover to us the true pathological and physiological principles of the human body.

In the perfectly healthy and normal conditions of the organs of the human body, every one has, in its structure, functional and local developments, something in which it is peculiar, and which is characteristic of itself. This is an axiom in physiology, which has been too long received, and is too obvious to admit of doubt. It is equally true, if not so universally admitted, that any derangement or deviation of these organs from their natural condition, is manifested by signs which are peculiar and characteristic of such deviation. It may, therefore, be laid down as a principle of pathology, that every disease is marked by *some sign* which is pathognomic of its real character; something in which it is unique; something, in respect to which it is unlike, and by means of which, it is signalized from all other diseases.

In many, perhaps in a majority of cases, these characteristic features of disease are well defined and easily recognized, and the phenomena which accompany them are plain and well marked, while there are other cases, in which every thing is obscure, confused, scarcely able to be comprehended, and still less to be appreciated. Still the existence of such peculiarities *is none the less real*, because they are not so easily recognized.

In many diseases this peculiarity is manifested by the development of a single and unequivocal phenomenon. In many others, by a variety or series of phenomena, all of which are positive and perfectly distinct. In others again, this peculiarity only manifests itself through phenomena which are purely negative, and there are still others, in which we are only able to distinguish them from those of a similar character, by the different *shades* of their similar phenomena. Hence the extreme difficulty, in frequent instances, of arriving at a perfect and correct diagnosis of disease, and the occasion of the various and conflicting opinions which oftentimes arise in regard to the one and the same object. It is the little and foolish things in these cases, which too often confound the wise, and in the search after pathological truths, "the less weighty matters of the law" are too apt to be overlooked for its "more signal and manifest display."

Such is the case, particularly, in regard to the means which have been most relied on, in diagnosing the various affections of the brain and appendages. The question, here, has been, not what the lesion actually



was, but what, in the end it would prove itself to be; and the feeling of anxiety has been, not so much to forestall the development of particular symptoms, as to see to what *end* such symptoms might eventually lead.

The fact is, just in proportion to the minuteness and accuracy of the knowledge which we possess, of the relations and the sympathies which exist between one organ and another, and of the healthy and due performance of the functions of those organs, just in that proportion shall we be able to decide upon any departure of those organs from their legitimate state.

At the present moment, it must be confessed, diseases of the brain are to be regarded as not only the most difficult, but as the most obscure class of lesions in the great nosology of man. A little more than a quarter of a century ago, when fancy built her hypotheses and conjecture in a degree took the place of observation and fact, before the new revelation had been made to science by means of such physical signs as are brought to light by auscultation and percussio; the same remark, with equal truth, might have been applied to diseases of the heart and lungs. But now, so far from this being the fact, the very reverse is indeed the truth, and instead of being the "most difficult" and most obscure, diseases of the heart and lungs, with the grand rationale of physical signs by which they are elucidated, are as easily recognized, and with as much certainty and precision defined, as the most simple lesion of the human body; and this too, apart from the ancient régime of rational signs, by which we have been wont to investigate disease.

It was the remark of a distinguished pathologist, "that the nature of the organs within the thorax and their disposition, render it almost impossible, that physical signs should ever be of any avail in developing the nature and character of these diseases;" and yet how wide from the truth has the sequel of a few years proved this opinion to be.

Instead of their disposition within the thorax, and the structure of these organs, offering any hindrance to the application of the natural principles of philosophy to them, an apparatus could scarcely be devised, which, by its disposition and structural arrangement, could more correctly, and with as much simplicity, demonstrate the principles of hydraulics and pneumatics, as the heart and lungs. And singular as it may appear, long after the art of auscultation and percussio had survived its infancy, not a few were to be found, to whom the possibility of detecting and distinguishing diseases in the chest, one from another, by means of a purely mechanical process, was a chimera, too absurd to merit a moment's consideration; and yet with all the objections which have been urged so unfairly against it, and the hindrances which prejudice and envy have opposed to its progress, the rapid advances which it has made, and its now almost universal acceptance, is a most signal triumph of the truth of the adage, "*magna est veritas, et prævalebit.*"

It has also been asserted, "that there are no physical signs applicable to

the brain, and from the circumstances in which the organ is placed, it is to be feared that none will ever be discovered."

It is indeed true, "that there are no physical signs applicable to the brain," such as are dependent on a cause similar to that of the act of inspiration and expiration of the lungs, or perhaps of the systole and diastole of the heart, while in their healthy state; for the brain, in its normal condition, can of itself develop no physical phenomena. The thing is incompatible with a physiological state of the organ.

There are, however, certain conditions of the brain, in which a new order of things has been discovered to take place; and the very fact that it is known, and can be shown to exist *only* in certain derangements of that organ, while in its physiological condition, signs which are purely negative in their character are developed, proves the former to be, not only a physical sign, but a sign which is most surely pathognomic of some derangement of the organ itself.

Such then, being the case, can it be shown that the organs within the cavity of the cranium are "so disposed" as to render the art of auscultation or percussion in any way available, and that these physical signs are applicable to the brain? The very thought ought to commend itself to the consideration of every true lover of science.

Heretofore, and even at the present moment, the diagnosis of diseases of the brain rests solely upon the plausibility of physiological and pathological induction. But inductive signs are known to vary, and to vary exceedingly in organs of the most simple structure, from the force of the slightest variation of circumstance. How infinitely more complex and variable then, must they be when dependent upon the mere breath of circumstance, over an organ of such exceedingly complex structural organization, as that of the brain! Yet in regard to this organ, although we may never, perhaps, attain to that degree of precision, I might say physical certainty, which has been attained, in regard to diseases of the organs of the thorax, may we not rationally anticipate, that, with what industry and perseverance can accomplish, and with what may be accomplished by a newer and more rational method of investigating its diseases, our knowledge may be as certain, and our diagnosis of the diseases of the brain, in a degree, may be made with as much precision, as that of the heart and lungs?

If, indeed, such a hope is held out to us, is the duty not an imperative one, that when we enter upon the investigation of a class of diseases, so numerous in their relations, and so important in their results, as those of the brain, it should be done with a boldness which nothing can intimidate, while at the same time we watch with a jealous eye, every thing which would tempt us to overreach the bounds of well-ascertained and well-established facts? And if by any means, whatsoever they may be, we may be able to reduce and simplify the phenomena of disease, to discriminate between the real and apparent signs, and to set a mark upon those *particular*

ones which look out from amidst the surrounding darkness, as beacon-lights, to warn us of the dangers which are at hand, so far do we elevate and extend the limits of that science, which, in its beneficence, would embrace every member of the great family of man.

Such were some of the reflections indulged in, after having read, a number of years since, some observations upon a new method of exploring the diseases of the brain. I mean that of "cerebral auscultation."

A summary notice of the *discovery* of a new auscultic phenomenon, as connected with certain diseases of the brain, and a brief résumé of its most prominent features, was first made by the author of the above-mentioned "observations," to the Boston Society for Medical Improvement, in the summer of 1833. Further observations were made, and a more extended view of the subject was subsequently communicated to the same society in March of 1838. The same paper was published the following August, as the readers of this Journal will recollect, under the title of "Observations on Cerebral Auscultation, by J. D. Fisher, M. D. of Boston."

I was particularly struck at that time with the observations contained in that paper, in consequence of my attention having been directed to the subject of the lesions of the great nervous centre, from reading the researches of Abercrombie, MM. Lallemand, Rostan, and some others of the more notable French writers upon this subject. Since that time I have noted as well and as accurately as circumstances would admit, every incident worthy of notice, which would tend to throw any further light upon the subject of cerebral auscultation.

The cases which I shall hereafter describe, have been those, with a single exception, which have occurred within my own practice, and from having had a frequent opportunity of seeing them, day after day, under every variety of condition and circumstances, I can certify to the accuracy and truthfulness of the details.

In a strictly physiological state of the brain, as has already been observed, no physical signs are developed, except such as are dependent on causes which are extraneous in their operation to any of the functions of that organ; such, for instance, as the sound of respiration, of deglutition, the sound of the voice and heart as heard through the medium of the brain.

There are, however, other sounds which are manifest only in certain pathological conditions of the brain, and which are dependent upon causes within the brain itself. These are the physical signs so far as they are known, of certain diseases of the cerebral organs, and as such they will hereafter be spoken of. Before entering upon the history of these last-mentioned symptoms, it may be proper to say a few words, first, in regard to the normal cephalic sounds. For a more particular and detailed account of these sounds the reader is referred to the article on "Cerebral Auscultation," in the August No. of this Journal for 1838.

In auscultating the heads of healthy children, four very different and per-

fectly distinct bruits, are heard passing through the brain. They are evidently the sounds which are produced by the act of respiration and deglutition, by the impulse of the heart and the voice.

The one which first attracts the attention, is that which is produced "by the impinging of the air against the walls of the nasal cavities during the act of respiration." It commences and terminates with the respiratory act, and in this respect, is peculiar and easily recognized. This sound has been denominated "*the cephalic sound of respiration.*"

"The second sound which strikes the ear, is one whose impulse seems to be transmitted from a distance. It is evidently that of the heart, and is a soft mellow sound, resembling that produced by softly palpating the cheeks when distended with air." This sound is synchronous with the action of the heart, and "varies in frequency and intensity, as the contractors of that organ vary in rapidity and power." This has been called the "*cephalic sound of the heart.*" The sharp, piercing, and vibratory sounds which accompany the act of crying or speaking, and which can be so distinctly heard over every portion of the skull, has been termed the "*cephalic sound of the voice.*" It varies somewhat in its tone at different parts of the head, being the least shrill and piercing at the unclosed fontanelle. The other sound which attracts attention, and the only remaining one of the normal sounds of the head, attends the act of deglutition. It is a dull, massive, liquid sound, and so peculiar, that when once recognized, it never can be mistaken for any other bruit. This is the "*cephalic sound of deglutition.*"

Such are the bruits, which are heard in the heads of infants before the closure of the fontanelle. As age advances, and the density of the brain and cranium increases, these sounds become somewhat modified. The change which some of them undergo in the numerous lesions of the encephalon, is however, exceedingly slight: still others are so manifestly changed in their character, as to become symptoms of cerebral disease.

Beside a modification of the "*cephalic sound of the heart,*" under the influence of certain diseases of the cranium, to a consideration of which this paper is more particularly devoted, I shall have occasion, hereafter, to speak of an equally striking modification of the "*cephalic sound of the voice,*" which is found to accompany, and which I think is characteristic of a *particular* affection of the brain. It resembles, as nearly as the nature of the organs could admit, the sound which is known to accompany the effusion of fluid between the two pleuræ of the lungs, and is never heard, except in those diseases of the brain which are attended with a similar effusion between the membranes by which this organ is enveloped. It is, indeed, no more nor less than a simple *ægophony* of the brain; and as such, I doubt not, but that hereafter it will be found a valuable acquisition to the category of signs, which belong to this obscure and difficult class of lesions. During nearly five years, in which the observations herein detailed, have been made, I have noticed the "*cephalic bellows-sound,* or some modification of it, in no less



than *eight* different and perfectly distinct lesions of the brain. In some of these, it has been a well-marked, constant, and invariable symptom; in others it has been less so, while in all it has been sufficiently striking to render it a valuable and independent physical sign.

The different diseases in which this symptom has been present and characteristic, I have arranged, and shall speak of them in the following order:

1. In simple congestion or irritation.
2. In acute inflammation of the brain, with or without effusion.
3. In chronic hydrocephalus.
4. In acute or local compression of the brain.
5. In induration, or scirrhus transformation of the substance of the cerebellum.
6. In ossification of the arteries of the brain.
7. In aneurism of the basilar artery.
8. In aneurism, and certain hydrocephaloid diseases.

The first instance in which I was able satisfactorily to determine the presence of the "cephalic bellows-sound," arising from *simple irritation or congestion of the brain*, was in the following case, transcribed from my note book for 1839.

CASE I.—July 10th, I was called to visit a child of Mr. L., aged 18 months. This afternoon on awaking from its sleep, in the absence of its mother, it had crept from its place of rest, which was a high-post bedstead, and had fallen to the floor. In its passage its head came in contact with the corner of a small wooden foot cricket, producing a manifest contusion of the integuments over the right frontal bone, and depriving it of all consciousness.

When I arrived, the child was in a state of apparent insensibility. Its inspirations were long, surreptitious, and somewhat convulsive in character. Countenance pale and cadaverous, with the eyelids closed, and the eyeballs rolled upwards; extremities cold and clammy, with scarcely a perceptible pulse at the wrist. The pulsations of the heart were feeble and preternaturally slow.

On auscultating the head, which I did for the purpose of satisfying myself of the presence of this new and singular phenomenon of the brain, no "cephalic bellows-sound" was heard; not a sound was communicated to the ear, but the unnatural and convulsive sound of respiration. Thinking that the feebleness of the arterial pulsations might be the cause of the absence of this sound, frictions with warm and stimulating applications were directed to be applied to the extremities, with the intention of relieving the smothered condition of the internal vessels, by increasing the activity of the capillary circulation without. The pulsations of the arteries of the extremities, head and neck were soon very perceptible, and on applying the ear again to the head, a short and abrupt sound, synchronous with the action of the arterial pulse, was immediately communicated to it.

This was the "cephalic bellows sound," and is perfectly distinct from the "cephalic sound of respiration," heard on my first auscultation. This sound, which was at first rather faint, increased in intensity and distinctness as the natural warmth and vitality of body was restored. Friction was

directed to be continued, and some active internal remedies were prescribed. On the following morning, July 11, the child, after having passed a restless and troublesome night, awoke to consciousness. From its appearance, however, it was evident there still remained no inconsiderable degree of disturbance of the functions of the brain. There was a strong febrile action about the system; skin dry and hot; tongue and mouth parched, and accompanied with extreme thirst. Head and face hot and flushed, and the integuments over the contused portion, tender and swollen. The eyes were dull and heavy, and there was a strong tendency to stupor and drowsiness. The pulsations of the carotid and temporal arteries of the injured side, were *violent* and rapid: less so on the left.

Such were the apparent *external* physical signs. On ausculting the head, the "cephalic bellows sound" was found much more distinct than on the preceding evening. It is short, abrupt, but does not so much resemble the "coarse, rasp-like sound," as mentioned by Dr. Fisher and which accompanies certain lesions of the heart, as the soft, diffusive sound, which is produced by drawing the finger suddenly over the surface of a piece of fustian or velvet. This sound is perfectly in unison with the arterial pulsation, and occurs 130 times in a minute.

Cataplasms of mustard were ordered to the extremities, a powerful purge was administered, and three leeches applied to the right temple.

July 11, afternoon. Medicine has operated six times; blood still running from the leech bites; countenance more natural; though still pale; eyes look brighter and more intelligent; movements around him noticed; skin warm and moist, and urine evacuated freely for the first time since the injury. Cephalic bellows-sound still heard, but not so distinctly as at the morning visit. In fine, this singular and evidently abnormal sound, and the *first* I had ever noticed in a purely *functional* disturbance of the brain, grew fainter and fainter, until about the third day from the injury, it had entirely disappeared, and the little patient had regained the natural vigour both of body and mind.

CASE II.—The second case of simple cerebral congestion which occurred to me, and in which the similar auscultic phenomenon was observed, was that of a young girl, aged 2 years. This patient, by being thrown from a carriage with its mother, had received an injury upon the head, similar to the one mentioned above. I saw her about two hours from the occurrence of the accident, and although not actually deprived of its senses, yet the singular and somewhat erratic movements of the child, coupled with the fears and apprehensions which the excitement of the moment had aroused in the minds of both parents and friends, demanded of their medical adviser a more careful, attentive, and serious consideration of the case. There were no external marks of injury upon the child, either about the body or head, not even the slightest abrasion of the skin could be found, and had not the age and the intelligence of the child removed it far above the reach of suspicion, I should have looked upon it merely as a case of hysteria.

Apart from this, however, there was evidently some functional disturbance of the brain. When left undisturbed, there was a disposition on the part of the child to fall asleep; upon being aroused, however, the countenance maintained an appearance of intelligence, although the eye had rather an uncertain and vacillating look and movement.

On ausculting the head, I directly caught a cephalic murmur, very much resembling that described in the previous case, and though less distinct, yet

like that, it was short, abrupt, and in frequency corresponded with the pulsation of the heart and arteries.

The next day the child had recovered from the immediate effect of the fall, and the "cephalic bellows-sound" had disappeared.

CASE III.—Was that of a young girl, aged 4 years. This patient, in the month of January 1842, while on her way to school in company with her brother, a little older than herself, in attempting to cross over a small plat of ice, slipped, fell, and in her fall brought her head with her whole force in contact with the ice. The blow, at the time, appeared to occasion only a momentary loss of sense. She was assisted up by her little brother, and proceeded immediately to school. During school hours, she was observed by her instructress frequently to fall asleep, and once or twice on being questioned, she complained of "dizziness in the head," and of the "school-house turning round."

I was called to see her in the afternoon of the same day, and found her labouring under all the common symptoms of a severe cerebral congestion. Her sleep was deep and heavy, almost lethargic, and was interrupted every now and then, with a low muttering moan, and frequent restless and uneasy movements of the head and limbs.

On applying my ear to the head, I at once recognized the cephalic murmur which I had previously noticed in similar cases of congestion of the brain. I think it was not so plain and distinct in this case as in other cases in which I had observed it, where the anterior fontanelle remained unclosed. It was distinct enough, however, to be readily recognized by one or two individuals present, who had never before practised auscultation. As in the cases already cited, the sound was short, abrupt, and synchronous with the motion of the heart and the action of the arterial pulse. A strict antiphlogistic treatment was prescribed, and cupping to the amount of two or three ounces from each temple. The sudden abstraction of blood from the head by means of the cupping-glass, seemed to afford almost instantaneous relief, and yet I must confess, I could not perceive that the distinctness and length of the bellows-sound were at all diminished. A second application of the cups was made on the following morning, which, beside the relief it brought to my little patient, evidently very much diminished the intensity of the cephalic murmur. In short, just so far as the functions of the brain, from day to day, regained their natural and healthy action, just so far did this pathognomic symptom of their disturbance also die away.

CASE IV.—This, the last case which I shall detail under the present head, I notice more on account of its singular and fatal termination, than for any marked auscultic phenomenon which it developed. I transcribe it as recorded in my Note Book of Cases for 1841.

March 16th. I was called to see the daughter of Mr. C., a little girl 3 years of age, who had been labouring under a violent attack of whooping-cough, during the preceding four or five weeks. Generally speaking, she had five or six severe fits of "coughing" during the twenty-four hours. These paroxysms, sometimes longer, and sometimes shorter, averaged from five to ten minutes in duration. For the last four or five days, they seemed to have increased both in length and severity, and once or twice, after a very severe and protracted fit of coughing, a sort of tetanic rigidity of the muscles of the face and neck had been observed by her parents. It was the appearance of this last symptom which had given occasion for my visit. On



entering the room I found my little patient in the midst of a severe paroxysm of coughing, with her countenance bloated, her "face black and full of blood."

"Her eye-balls farther out than they were wont,  
Staring full ghastly, like a strangled man,  
Her hair upheaved, her nostrils stretched with struggling,  
Her hands abroad displayed as one that gasped  
And tugged for life, and was by strength subdued."

With her tongue spasmodically protruded, and accompanied with a copious secretion of a frothy saliva; with every muscle convulsed and every nerve strained to its utmost tension; she looked the very impersonation of a "living asphyxia," in the last struggle to rend asunder the throttling embrace, which death was not in vain endeavouring to throw around her.

I could not help noticing the untoward severity of the paroxysms; and although accustomed to look upon this disease as one comparatively free from all danger, I was deeply impressed with the conviction, that death had already set his seal upon my patient, and the grave marked her out for its prey!

After the paroxysm had subsided, and as soon as the little sufferer had obtained a few moments' repose from this struggle between life and death, I carefully applied my ear to the coronal portion of the head, and, beside the hurried and laboured sound of respiration, I at once detected a perfectly audible and distinct "cephalic bellows-sound." It did not differ from the same sound as described in the foregoing cases, except that it was more continuous, the sounds running into each other, and scarcely leaving a perceptible interval between. The sound evidently diminished in intensity during the thirty-five or forty minutes to which my visit was protracted; but it had not at the end of that time entirely disappeared.

Till within the last two or three days, the child, as I was informed, had maintained its accustomed spirits and playfulness during the intervals of the paroxysms. Since then she had become exceedingly nervous and irritable in her disposition, little inclined to play, but rather averse to see amusement, and much inclined to sleep.

Besides the probability of this temporary congestion of the brain, accompanying each paroxysm of the cough, there were also present some unequivocal signs of no inconsiderable bronchial affection. A deep and sonorous rhonchus, interrupted here and there by a slight mucous r  le, was heard throughout both lungs. The lungs resounded well on percussion, except near the posterior portion of the right one.

Once or twice, for a few moments preceding a fit of coughing, I was informed that the respiration had been exceedingly laborious, and accompanied with that peculiar dry and stridulous sound which is so characteristic of *croup*. Pulse frequent, tongue coated; skin dry and hot. Antimony and paretoric, with a powerful purge of calomel, were prescribed, and a pediluvium at night, with poultices of mustard to the feet and legs. A small vesicating plaster was also applied over the posterior portion of the right lung.

17th. Morning. Sleep has been more quiet through the night, and less interrupted by coughing; respiration is also freer and more natural; otherwise, the child is much the same as yesterday. Chest still resonant on percussion, except over the inferior portion of right back; mucous rhonchus still heard throughout both lungs. Pulse still frequent, skin hot, cheeks



flushed, tongue coated, and the lips dry and parched. Bellows-sound inaudible.

Continue antimony and paregoric, with oleum ricini  $\bar{3}$ ss, to be repeated in three hours if necessary.

In the evening was again present during a very severe paroxysm of coughing, which was followed by a distinct and well marked bellows-sound, which entirely died away again within the lapse of twenty-five or thirty minutes. Bowels had been moved five or six times during the day, which seemed to afford a little temporary relief. Blister had extensively vesicated the surface, under the influence of which the irritation about the lungs had somewhat subsided.

18th, 19th, and 20th, much the same, excepting the length and violence of the paroxysms of coughing, which of the two, had rather increased.

21st. Early this morning I was hastily summoned to attend the child—as the messenger informed me, “in a fit.” I immediately repaired to the bedside of my little patient, and was much surprised to find it labouring under the usual symptoms of a decided cerebral apoplexy. The accession of the fit, I was told, occurred during a moment of strangulation which accompanied an unusually long and severe fit of coughing. The urgency of the case, together with the grief and anxiety of its friends, seemed to admit of not a moment’s delay either for inquiry or examination. That was demanded, and that only, which would afford instantaneous relief, and rescue the little sufferer from the jaws of death.

A free discharge of blood was made from an opening in the temporal artery of the left, and the jugular vein of the right side. After the bleeding, ice was ordered to be applied to the head, accompanied internally with an active purge, to be followed with enemata of castor oil and spirits of turpentine.

On ausculting the head at this moment, contrary to every expectation, I was unable to detect any sound, except the long and stertorous sound of respiration. A similar result followed the third and fourth subsequent examination, which were made during the deep, lethargic sleep into which the child had so suddenly fallen. In about seven hours from the time of its attack, the powers of life seemed to rally again. Consciousness in a degree returned, though not sufficiently clear, I think, to recognize the countenances of her afflicted parents. She has had no paroxysms of coughing since this evident attack of apoplexy; and I now notice for the first time, a slight contraction of the muscles of the right side of the face. There was found on a further examination, an evidently palsied state of the whole of the left side of the body. The sensibility of this side, though much diminished, was not, however, entirely lost. The foot was slightly turned inward, and the muscles of the arm affected in such a manner as to draw the thumb and fingers of the left hand towards its palmar surface and each other.

During a visit this evening, my attention was again directed to the discovery of whatever physical sign might be developed within the cranium. The paroxysms of coughing had returned during the latter part of the afternoon, and had continued more or less frequently during most of the evening.

On ausculting the head immediately succeeding a coughing fit, I again detected a very distinct and audible murmur, varying somewhat in its character from the pure bellows-sound of the head. It was less circumscribed in its locality and duration than that sound, and was more a dull, impulsive, muffled murmur, and withal a sound “sui generis.”

I had scarcely time to satisfy myself of the *real* character of the murmur, when a sudden accession of coughing, with a momentary sense of suffocation, put a period to the existence of my little patient.

Examination of the body sixteen hours after death.

External appearance of the body is natural, except the integuments about the head, face, and neck: these appear bloated and swollen.

*Head.*—The membranes of the brain natural, except the pia mater and arachnoid, which are somewhat congested. Eleven or twelve whitish and rather opaque granulations are clustered together about the posterior part of the arachnoid, near the longitudinal fissure; there are also some very slight traces of effusion beneath this membrane. The substance of the brain appeared, when cut into, natural both in colour and consistence, except here and there are to be seen some small points of bloody matter, extending from the extremities of the excised vessels. Just below the middle of the right hemisphere, and nearly on a level with the corpus callosum, a considerable quantity of partially coagulated blood is found, evidently the effect of a rupture of the substance of the brain at this place, and a recent hemorrhage from the ends of the abraded vessels into it. The brain, otherwise than the *rupture*, the hemorrhage, and the congestion of its substance, was healthy, and in its natural state.

*Thorax.*—Heart apparently healthy, with the exception of a slight effusion of a very clear and limpid serum into the pericardium, amounting in all to not more than a fluidrachm.

*Interlobular emphysema* exists throughout both lungs, manifested by the bubbles of air, which are seen collected in clusters and chaplets, over their surface and along the division of their lobuli. These are particularly noticeable over the left inferior lobe. There is also a considerable emphysema about the roots of both lungs.

Throughout the inferior lobe of the right lung, and especially over its posterior portion, there is a high sanguineous congestion, such as is found in the acute stage of pneumonia, and which gives a solidity to the lung, approaching a sanguineous hepatization.

The remaining portion of the lungs were of a light, spongy texture, and except for their emphysematous state, seemed sufficiently fit to carry on the function of respiration. The *mucous membrane* of the larynx and trachea is red and injected, and in the lower part of the former, are some slight appearances of a bloody exudation. The bifurcation, and the more minute ramifications of the bronchia are found filled with a thick, tough, ropy mucous secretion, of nearly the colour and consistence of prepared starch.

*Abdomen.*—Not examined.

I have thus been somewhat minute in noticing the history of this last case; not so much, however, for the mere local and physical signs which it developed, as for the interesting and singular pathological conditions which accompanied them.

The cephalic murmur at first noticed, was evidently *that* growing out of a simple cerebral congestion. It was the pure “cephalic bellows-sound of the head,” while that which was afterward noticed, and which was co-existent with the state of apoplexy, differed from the ordinary bellows-sound, and was evidently connected with another lesion of the brain, aside from that of simple congestion.

Beside the four cases already cited, I have had occasion to notice a similar phenomenon, in no less than thirteen other instances of cerebral congestion, brought on by concussion of the brain from falls, or some injury immediately inflicted upon the head; and in every instance the existence of this phenomenon, its commencement and its termination, has been cotemporary with the accident and recovery.

There are, however, many circumstances, other than those which are connected with an actual injury of the head, in which decided cerebral congestion is indicated, and in which this new auscultic symptom is manifestly developed.

Out of 100 cases of hooping-cough which I have examined, of about the average severity of the disease, in 87 of them I have been able to detect the cephalic bellows-sound. It has uniformly made its appearance immediately after the accession of a severe paroxysm of coughing, and has as uniformly disappeared so soon as the equilibrium of the circulation was restored; and in no instance of the disease which has fallen under my observation, except in the case (4th) as mentioned above, has the sound continued to be heard beyond the space of a very few minutes.

Out of 225 cases of protracted and painful dentition, which I have had occasion to notice within the last four years, in 189 I have distinctly heard the cephalic bellows-sound; that is, in three quarters of all the cases of teething which I have observed within four years, sufficiently severe to attract attention, the cephalic bellows-sound has been distinctly heard; while on the other hand in a perfectly calm and natural condition of the system, I have been unable, under the most favourable circumstances, to detect the least murmur or sound in the head, whatever.

To many, therefore, regarding this phenomenon as a symptom which is pathognomic of a particular condition of the brain, this may seem a most unwieldy proportion: yet when we consider the inordinate sympathy which exists between all the mechanical functions of the body and this *simple* nutritive process,—the intimate connection it has with the brain through the nerves, and the peculiarly irritable state it induces in the whole nervous system, together with the infinite variety of more or less remote affections which are supposed to grow out of this process—the ratio dwindles into comparative insignificance.

Such however *is the fact*, and I venture to say, there is not an individual in the whole range of the Medical profession, who is not an almost *daily* witness to the tremendous nervous and arterial excitement, which is induced by the more protracted cases of painful dentition, and we might add too, to the frequent, melancholy and fatal results, which spring from a so apparently trifling cause. Apart, then, from any circumstance which the presence of this phenomenon may seem to indicate, in every case of painful dentition, the organs within the cranium are known to be in a state of the most unnatural excitement. This is obvious from the most simple rational signs

which can exist. But it is also known, that this state of things within the cranium is always accompanied by a perfectly distinct and audible murmur, which has been termed "the cephalic bellows-sound." This sound, as has already been stated, is never heard during the process of dentition, except when accompanied by a greater or less cerebral congestion. The presence of the *one*, then, proves the existence of the other, and it follows, that whenever this "cephalic bellows-sound" is heard, a congestion of the brain must coexist.

The author of the above mentioned paper on "cerebral auscultation" thus speaks of the presence of the cephalic bellows-sound in cases of painful dentition as going to prove the existence of cerebral congestion. "I find," says he, "that the cephalic bellows-sound, except in actual diseases of the head, cannot be detected in children previous to the commencement of dentition, and that it ceases to be heard after the teeth have pierced the gum; and in cases where there is a long interval between the successive appearance of two crops of teeth, the bellows-sound, which was developed during the cutting of the first crop, will sometimes cease during the interval, and occur again during the severe excitement produced by the cutting of the second crop of teeth. After all the first set of teeth have made their appearance, the sound dies away and seldom occurs during the second dentition. In three or four instances, however, I have noticed it in children, during the process of the second dentition, but *never* in the adult, except in actual cerebral disease."

The presence of the bellows-sound during the process of the "second dentition" is not a matter of so unfrequent occurrence as, from the above remark, might be properly inferred. I have had occasion to notice no less than 22 cases of second dentition, in which this sound was indistinctly heard. It was not so distinct however, in these, as in the former cases, yet sufficiently so as to be easily caught by the ear.

I have also noticed a similar phenomenon in two cases of dentition *in the adult*. Both were individuals of exceedingly delicate and nervous temperament, and in both it occurred during the growth of the wisdom teeth. The sound however was characteristic and could not be easily mistaken.

Every indication therefore, in regard to the physical condition of the parts connected with this process, is that of *plethora*: and a point which cannot be too steadily and uniformly insisted upon, is the local means necessary for relieving the irritation and congestion of these parts. I mean that of incising the gums over the points of the protruding teeth.

It is frequently the case, that the *most signal benefits* are derived from this perfectly simple and harmless operation; and yet, *too often*, are the whims and prejudices of people allowed to interfere with its judicious and timely performance. Even *mothers*, and individuals too whose rank and intelligence should remove them far above the reach of such *vulgar* and unworthy influences, are by far too prone to allow their over-excited an-



fevered imaginations to be haunted with the ghosts of some goblin story, which ignorance and prejudice have conjured up to poison the better judgment against the propriety of the act. Let me relate a case which is just to the point. It is but a short time since, that I was called to attend a child suddenly attacked with convulsions. The cause, beyond all question, was the irritation produced by the protruding teeth. On examining its gums, they were found much swollen and in a state of high inflammation. I at once suggested to its mother the propriety of freely incising them. I was, however, repulsed in my first attempt to do this, by the un-called-for and untimely interference of a "knowing female acquaintance" of hers, who happened to be present at the time, and who showed her "pious abhorrence" of the *deed* by such *unmeasured ejaculations* as these:—"Good heavens! Doctor, you do not think of cutting *that child's teeth when in a fit!*"—I made no reply, as my attention at *this* moment was particularly directed to the child. Turning to the mother, continued she, "were that my child, Mrs. L——, I would no more have its teeth cut than I would have its throat cut!! Why, 'tis only a few days ago that Mrs. 'Gossip,' one of my neighbours, told me of a little child, which, *just like this* was taken in a fit, *the doctor was called, cut its teeth, and in three days it was a corpse*, and you may depend upon it, *cutting its teeth* was the death of it!!!"

Now what can be said to rebut such an argumentum ad hominem as this, and who could doubt but that the cutting of its teeth was the cause of the death of the child? Without stopping, therefore, to reason the matter, I only the more strenuously insisted upon the absolute necessity of the operation, and with the *reluctant consent* of its mother, performed it much to the discomfiture and chagrin of so important a personage. I saw the child on the following morning, and found it bright and playful as though nothing had happened to it, and affording to its delighted mother, a most convincing proof of the fallacy of such vulgar and absurd notions.

A case, going to prove the beneficial effects of dividing the gums, is also related by Dr. Fisher, and I doubt not that every medical gentleman can relate a similar experience of his own. Still, it must be confessed, such reasoning as the above, to the great mass of mankind, is the ruling principle in physies. *Post hoc, ergo propter hoc*, is a sequiter in medicine which nothing can ever refute, except the universal diffusion of a more thorough and enlightened knowledge of the laws which influence and regulate the human system.

*I shall* now speak in the *second place* of the cephalic-bellows as connected with *an acute inflammation* of the brain.

Within the time that these observations have been made, I have noticed this phenomenon in 19 different and distinct cases of acute inflammation of the brain. It was present in all of them as a prominent and unequivocal

symptom, and as such its progress and development was carefully noted, from the commencement, to the termination of the disease in each case. I shall, however, out of the whole number, detail the history of only three cases, taken at random from my Note Book, which will embody all that is important in regard to the observations which have been made in the remaining cases.

CASE I.—March 23, 1839, visited a child of Mr. C., aged 3 years and 3 months, which had been ill for some little time, as was supposed from the effect of worms. I found it to-day presenting the following appearances. In the cradle asleep; it lay with its mouth and lips open, head thrown back, and its eyeballs slightly turned up beneath the partially closed eyelids. Head hot, and the pulsation of the arteries about it violent and rapid. Face red, lips dry and parched, as also was the surface of the whole body. Tongue coated with a white fur, its tip and edges dry and red. Respiration rapid, irregular and unequal, and frequently interrupted with a half stifled groan, indicative of great distress. Hands oftentimes and violently thrust into the mouth, nose, and ears, with frequent turning and rolling the head from side to side. For the last four or five days it was noticed that the child had become fretful and peevish, and at times dull and drowsy; still at occasional intervals it was bright and playful. Within the last two days there had been loss of appetite, accompanied with nausea and extreme thirst. Bowels had been freely opened by medicine administered, with the idea of expelling from them the *worms*. The secretion of urine has been scanty, high coloured, and of a strong disagreeable odour. In addition to this, the child was exceedingly annoyed with a dry, troublesome, hacking cough, especially preceding the sensation of nausea. Pulse 140; respiration 38.

The child having been raised from the cradle, I carefully applied my ear to the upper portion of its head, to ascertain, if possible, the presence of any physical sign within the cranium. The restlessness of the child, with the continued rolling of its head, at first prevented my detecting any thing unusual about this organ. It soon, however, became quiet, I immediately caught a very distinct, audible murmur, which I at once recognized as the bellows-sound of the brain. It was an abrupt, slightly raspy sound, differing in no essential particular from the bellows-sound, which I had before heard in cerebral congestion. It was perfectly distinct from the peculiar sound of respiration, and was synchronous with the action of the heart and arterial pulse.

Auscultation and percussion discovered nothing unnatural in the condition either of the heart or lungs; and after the most careful and attentive examination of every portion of the body, the least trace of a sound, resembling that within the cranium, could not be found. Its location was within the brain, and it seemed of itself to indicate some abnormal condition of that organ.

Cold applications were ordered for the head; mustard to the feet, with four grs. of calomel, to be taken once in three hours, until violent catharsis was produced.

24th. Child had passed a restless day and night. Its symptoms are in no way amended, but of the two, aggravated. The tendency to sleep has much increased, attended with a low, stertorous breathing, differing widely from the hurried and rapid respiration of yesterday. The conjunc-

tiva of both eyes is slightly injected, especially that portion left exposed by the partially closed lids. Some stiffness of the muscles; which is not, however, well marked. Pulse still rapid.

On examining the head to-day, I at once recognized the sound I had discovered yesterday. It was louder, more distinct, and from being soft, short and diffusive as yesterday, it had become prolonged, coarse, and rasp-like; differing in this respect from the short and abrupt sound of congestion. It was perfectly distinct and characteristic, and which once heard, could not be mistaken. Compressing the carotids with the ends of the fingers, caused some little alteration in the character of the sound. It was increased both in intensity and duration, until the pressure had reached a certain limit; beyond *that*, the sound became less and less distinct, confused, running into each other, and finally altogether disappearing whenever the pressure was carried to the point necessary to interrupt the course of blood, through these vessels to the brain.

Compression of *one* of the carotids did not entirely obliterate the sound, although it rendered it somewhat duller than when the circulation was free and unimpeded.

Six leeches were applied to the temples, and an equal number to the nape of the neck, and such other remedies were internally prescribed, as the nature of the case seemed to demand.

On the following day, March 25th, I found the child much relieved. Respiration less laborious; more wakeful; and less heat about the surface of the body and head. The pulse, however, remained full and rapid; and auscultation still discovered the presence of the cephalic bellows-sound. And, although not familiar with the nature and character of this phenomenon in the brain, I was unable to separate it from the idea of compression of some kind upon the blood-vessels of that organ.

26th. The child had relapsed into a state of somnolency, from which, with its concomitant symptoms, the most careless observer would at once have diagnosed the existence of a most dangerous form of cerebral inflammation. Extremities were cold and clammy; muscles rigid and contracted; eyes dry, red, and injected, sunken in their orbits, and rolled upwards; pupil of the right side dilated.

On applying my ear to the head of the child again to-day, the bellows-sound is at once recognized. It is much more distinct than yesterday, and is also, when pointed out and described, easily recognized by the nurse and parents of the child.\* The sound is rapid, undulating, and prolonged to such

\* In Dr. Cowan's "Manual of Physical Diagnosis," the discovery of the Encephalic Bellows-sound, as a symptom of "certain acute and chronic affections of the meninges, and also cases of inflammation of the brain" is noticed and accredited to Dr. Fisher, of Boston; and it is also observed by the same distinguished author, "that M.M. Andral, Bouillaud, Barth, and Roget, have failed to detect the encephalic bellows-murmur, after repeated examinations; and its true value, if any, remains to be investigated."

To be able to discover the presence of the cephalic murmur in a great many instances, it must be acknowledged, is a matter of no small difficulty, and yet, *it is not a little singular*, that men of such noted powers of observation as Andral, Bouillaud, Barth, and Roget, should have failed to detect this sound, *which in some cases*, to say the least, is a well marked and prominent symptom, and especially so, when it is a well known fact, that to many of the physicians of the city of Boston, its presence in certain diseases of the brain, has become a matter of quite common observation.

The *real value of this symptom* of cerebral disease, moreover, may not yet be fully



a degree, as to render it almost one continuous murmur. It corresponds in frequency with the arterial pulse, and is 148 to the minute.

This new and singular auscultic phenomenon continued to be a constant symptom, increasing in distinctness until the evening of the following day. From that time the sound began to diminish in intensity, becoming more and more indistinct as the powers of life were enfeebled, till it finally died away as convulsions and coma supervened, and death closed the scene.

*Autopsy* 12 hours after death.

*External appearance.*—Body emaciated—limbs stiff and rigid—countenance sunken.

*Head.*—Blood-vessels of the dura mater tinged and swollen with an unusual accumulation of dark venous blood. There is also some slight adhesions of this membrane to the skull, which are recent and easily torn from their attachment. The slight effusion of a serous fluid is found within the cavity of the cranium, more particularly confined to the arachnoid cavity. The quantity is inconsiderable and undetermined, the greater part of it escaping during the separation of the integuments from the brain. Substance of the brain highly congested. The ventricles are much distended and filled with a thin, clear, transparent fluid, to the amount of four or five ounces. The cavity at the base of the brain contains also a considerable quantity of a rather turbid fluid, and the blood-vessels at this part are covered with shreds and flocculi of coagulable lymph, manifestly the traces of a violent and recent inflammatory state of the parts.

Organs of the thorax and abdomen healthy.

*Case II.*—April 20, 1840. I was called to visit the child of Mr. W., aged two and a half years. It had exhibited no symptoms of indisposition, till within the last three or four days. A slight convulsive fit, which was soon over, first indicated the necessity of medical advice. On inquiry, however, I found that the child had been less sprightly than usual for a number of weeks, and occasionally it had been heard to cry out in the midst of its sports as if struck, or attacked with some sudden pain. This was soon over, and from the suddenness of its accession and the shortness of its duration soon ceased to attract attention. At this moment all the rational signs indicate a high state of febrile excitement:—skin hot and dry—face flushed and suffused with blood—tongue coated, lips dry and parched and attended with extreme thirst, all of which last symptoms had evidently increased since the occurrence of the fit. It was this last mentioned symptom which particularly attracted my attention to the brain. Examination of this organ by auscultation, after some little delay, discovered a well marked bellows-sound, though very much fainter than the similar sound which I had heard in simple cerebral congestion. The uneasy movements of the child may have had an influence in rendering the apprehension of this sound somewhat difficult. A more thorough examination of this point on the following day, was succeeded by a more satisfactory result. For three or four days, this sound continued to be heard, without the supervention of any other

known, still it is not for a moment to be questioned, but that as a physical sign, it will prove itself to be a valuable acquisition to the other means of investigating diseases of the brain; and its intrinsic worth is by no means lessened, "because it is the accompanying symptom" of such difficult and irremediable lesions, any more than that the same circumstance should render such physical signs as the cavernous râle, pectoriloquy, or metallic tinkling, valueless in exploring diseases of the lungs.



sign; and yet I was satisfied, merely from the presence of this one particular symptom, and without regard to any of the rational signs of the disease, that it would eventuate in a confirmed and probably fatal inflammation of the brain: and the sequel of a few days, proved that my apprehensions in regard to the case, were not groundless.

Without entering more minutely into the detail of the symptoms which were developed from day to day, it is sufficient to state, that the bellows-sound remained a constant and unvarying symptom as in Case I. I think it increased in intensity and distinctness, just in proportion to the degree of inflammatory action within the brain; and as the powers of life began to sink, the sound in like manner gradually began to diminish, and ceased only when the vitality of the body had entirely departed.

Examination of the body after death, showed the well marked traces of a violent and fatal inflammation of the brain. A highly injected state of the blood-vessels of the dura mater and the other membranes of the brain, a copious effusion of a thin serous fluid into the cavity of the ventricles and about the base of the brain, together with a highly congested state of the blood-vessels at this part and of the whole substance of the brain, were indications, which could mislead no one in regard to the nature and locality of the disease in question.

*The Third and last Case*, to which I shall ask attention under this head, was the daughter of Mr. W., aged five years and four months, and sister to the subject of the case last noticed. It may be proper to remark in this connection, that this was the *third* child of these same parents, all of whom died of inflammation of the brain. I shall give this case at some length, it being interesting, not only as an instance of the development of a well marked bellows-sound, but also one in which a peculiar, and strikingly modified sound of the voice was noticed as supervening upon the last mentioned phenomenon.

I was called to visit this little girl, on the 9th day of August, 1841. About twelve days previous to this, she had received a slight injury upon the head, by being tossed into the air from the horns of an unruly cow. The fall occasioned at the time, a temporary concussion of the brain. This however soon passed off, and was not considered of sufficient importance to need attention. To-day she complains of nothing, except a severe pain a little below the right hypochondrium. This had troubled her more or less ever since the accident; now it is quite intolerable. There is no tenderness on pressure, neither do the parts show any marks upon it, that it had ever been the seat of any considerable injury. The bowels are slightly tympanitic. The head was examined, but neither rational or physical signs discovered any thing abnormal in its condition.

Fomentations of hops were ordered for the bowels, and half an ounce of castor oil, with 30 drops of paregoric was administered, the same quantity of paregoric to be given every three or four hours until the pain had subsided.

*August 10th.*—Oil had produced two or three copious evacuations, and 120 drops of paregoric had been administered during the night with no apparent relief. In all respects the child was much the same as yesterday. Pulse a little hurried, being 98 to the minute. Skin quite natural—slight thirst—some appetite though the tongue is coated—urine scanty.

Continue fomentations and paregoric, with a gradual increase of the quantity if needed.

11th. and the four succeeding days, appearances remain much the same with only a slight amendment in the degree of pain, as the system was kept under the influence of opium.

Examination of the head was made once or twice during the time without any satisfactory results.

17th. To-day, for the first time she was suddenly attacked with cold rigors and "ague fits," which lasted at different intervals for the space of 30 or 35 minutes. These were succeeded by a state of somnolency, which continued through the great part of the day. During sleep, some slight and irregular remissions of fever were noticed. On waking the pain in the bowels had been exchanged for a more violent and throbbing pain about the temples and forehead. The pulse also, from being quite moderate, had become small and rapid, 145 per minute. Tongue furred—skin hot and dry—thirst, with extreme heat and tenderness about the head and scalp. Anorexia with nausea at the presence of food.

Examination of the head to-day, immediately detected the presence of a very distinct and audible murmur, which was the bellows-sound in question. It was more distinct than I could have anticipated finding it, especially in so early a stage of the disease. It is audible over every portion of the cranium, but most distinct at its upper and coronal region. It does not differ, except in distinctness, from the sound as described in the two previous cases, and as in them, it is coarse, rasp-like and in harmony with the frequency and intensity of the action of the heart and arteries, occurring 148 times to the minute. It is also perfectly distinct from the sound of respiration and of the voice, and when once recognized could not be mistaken.

Compression of the carotids, sufficient to impede the circulation of the blood through them, caused it entirely to disappear. This sound was so exceedingly striking, as to be recognized by one or two present, and was spoken of as "the sound which the blood would make rushing through the veins." I carefully examined the head, after having made an opening into the external jugular, for the purpose of ascertaining what changes, if any, might take place in the character of this phenomenon during the process of bleeding. The sound after a few moments began to grow less distinct, and in a degree to lose that harshness which had previously characterized it. Bleeding was continued ad deliquium, when the sound entirely vanished. It did not reappear during the little time longer to which my visit was prolonged.

Cold applications and ice were ordered for the head, and a blister to be applied between the shoulders over the course of the spine. Six grains of calomel were prescribed every *four hours*, with infusion of senna at short intervals between.

18th. Child appeared brighter than yesterday, though *I was informed* that the sound had returned to its head in about two hours from the time of bleeding, and now on examining the head it is plainly perceived.

Blister vesicated well—24 grains of calomel had been given, with the infusion of senna, and with but little effect upon the bowels. Continue calomel and senna assisted with injections of castor oil and spirits of turpentine.

19th. Found the child evidently growing worse, and learned that it had experienced two or three severe "ague turns" and chills during the night. Medicine had operated well, with no apparent relief. Countenance looks pale, sunken and distressed, and the eyes wear an expression of

extreme heaviness. A deep stupor and an unwillingness to be moved alternate with violent screams and complaints of the head and abdomen. Every attempt to raise up the child, is attended with sickness of the stomach and vomiting, with an exceedingly troublesome, dry, hacking cough. Respiration is hurried and irregular, amounting to 49 to the minute. The chest, however, resounds well on percussion, and the respiratory murmur is perfectly distinct throughout both lungs. Pulse is 148 in a minute, and irregular both in the frequency and strength of its pulsations. This irregularity of the pulse evidently corresponded with a similar irregularity in the respiratory movements. The action of the heart is turbulent, and the pulsations of the temporal and carotid arteries violent and rapid. Auscultation at once discovers a remarkably strong and well marked bellows-sound. It is more distinct than I had ever heard it, and seemed to correspond both in frequency and in strength with the action of the heart and pulsations of the temporal and carotid arteries. It was heard in almost every portion of the cranium with equal distinctness, and could not be confounded with any other murmur of the head.

Beside the bellows-sound already described, my attention was, for the first time, attracted to the presence of a *peculiar*, and to me novel sound, *connected with the passage of the voice* through the brain and skull. It has a much sharper and shriller tone than that of the natural voice, and seems to strike upon the ear, as though the shrill notes of the clarion were echoing through the vault of the cranium below. It has, moreover, another character which renders it altogether *so unique*, that when once heard, it cannot easily, the second time, escape recognition; I mean a trembling-brazen-vibratory sound, which in imagination, resembles nothing so much as the noise produced by singing, crying, or speaking through the teeth of a comb, previously covered with a bit of silk, parchment or paper. In two or three instances since the record of this case, I have noticed this sound corresponded almost exactly, with the trembling, bleating sound which is so characteristic of the *ægophony* of the lungs. And indeed, so nearly does this sound resemble in every essential particular that of *ægophony*, and so nearly also do the pathological conditions, necessary to the development of these phenomena, resemble each other, that I know of no appellation, by which *this* can be better designated from *that*, than by applying to it the term "*encephalic or cerebral ægophony*." But to resume the history of this case—it will be sufficient to state, that the *bellows*-sound still remained a constant and important symptom, so long as the powers of life were well sustained, and failed, only when they had become so much enfeebled, as to render existence, every moment, an improbability. The *ægophonic* sound of the voice, on the contrary, was equally present and distinct, from the time of its first appearance, up to the moment when the last groan told that life had indeed departed from the body.

On examining the body after death, the following appearances were noticed, beside the usual pathological signs of acute inflammation of the brain, such as have been already described in the previous cases. Convolutions on the surface of the brain were much flattened; and an extensive extravasation of a serous fluid was found within the cavities and between the membranes of the brain, covering nearly the whole of their free surfaces. The great mass of the *encephalon*, in fact, was, as it were, surrounded with the fluid which had been secreted within it. Over nearly a third of the posterior portion of the cerebrum, there was spread a thick layer of coagulable lymph, which had



the appearance of a real membranous expansion enveloping this part. Beyond this there was nothing peculiar in the pathological appearances of any part of the body.

*In the third place, I have noticed the cephalic bellows-sound as a prominent symptom in Chronic Hydrocephalus.*

The whole number of cases of this disease, which have occurred to me since these observations were commenced, is *five*. Of these, *four only* were subjected to medical treatment. One of these, moreover, soon died of a disease, which was purely accidental, and in no way connected with the one in question, and under circumstances too, which forbade any examination of the parts concerned in its development. Of the three remaining cases, I shall relate the history of each, in as brief a manner and as rapidly as the causes, treatment, and termination of each one, will properly admit.

CASE I.—The subject of this case was a child, aged 3 years and 4 months. I transcribe it as recorded in my Note Book for 1840.

July 26th. I was consulted by Mr. G., in regard to the health of a little son of his, who, as was reported, had been labouring under "*some obscure complaints, for the last 14 or 15 months, which had produced an extraordinary enlargement of the brain.*" The child, as I was informed, had enjoyed uninterrupted good health from the time of its birth, until nearly *nine* months of age. The process of teething commencing about this time, the health of the child evidently began to decline.

The period of dentition was protracted and painful, and although for a long time unattended with any thing which might awake apprehensions of its final result, the fleshy plumpness and rotundity of its little body, was at length noticed gradually to dwindle and fade away.

At about the age of 17 months, while suffering from a severe attack of dysentery, he was suddenly seized with convulsions of the most alarming character. In this miserable and forlorn condition, the powers of life balancing between the two extremes of existence, the little sufferer lay for a long time. During the eight-and-forty hours immediately succeeding their first access, it was reckoned that the child suffered from the paroxysms of no less than twenty-three different fits: and in the course of three or four months, had experienced upwards of a hundred fresh attacks. Up to the present time, even, the child when frightened or irritated, occasionally manifests signs of a strong tendency to them, and which is generally succeeded by a slight feverish habit, with stupor and listlessness.

At the age of 20 months, its head, for the first time, was noticed as being a little peculiar. The frontal portion had become more prominent than natural, and its transverse diameter was evidently much increased, and in spite of the most active and rigid treatment, with purges, blisters, leeches, issues, bandages, *et id genus omne*, the enlargement proceeded onward, while the fever and stupor gradually diminished, and at length died away.

The head has continued to increase in size up to the present moment, and yet the intellect of the child seems to be in no manner affected. It is lively, playful, and appears as sensible as most children of the same age; it is, however, unable to walk, and with difficulty to stand erect. The appearance of the child, to me, is most singular. Its head, which measures full eighteen



inches round, broad and expansive, with the frontal region projecting far over the rest of its face, and with difficulty sustained upon a most meagre stalk of flesh, shows a strange contrast with the poor shrivelled, attenuated form to which it is hanging for support. The frontal and parietal bones were separated from each other, to the distance of one-half or three-quarters of an inch; and the sutures of the frontal bone extended nearly down to the root of the nose. From appearances, I should judge that the anterior fontanelle had never entirely closed. The ossification at the posterior portion of the skull was complete, although the sutures at this point were separated from each other. The pulsations of the brain can be seen and felt along the fissure caused by the separation of the coronal and sagittal sutures. It is quite strong, and corresponds with the action of the heart.

The integuments over the expanded sutures, appear somewhat raised above the common level of the scalp. On ausculting the head directly over the parts where the pulsations of the brain are most distinctly seen, I hear a remarkably strong and distinct bellows-sound. I cannot perceive that it differs in any way from the same sound as heard in the more acute affections of this organ, save that it is slightly *less abrupt*. Like that, it is coarse, rough, and rasp-like, and is in unison with the pulsations of the brain, and with the movements of the circulating apparatus.

The sound of the voice in this case, is also peculiar. It is sharp, piercing, vibratory, and produces a tickling sensation upon the ear, which is quite insupportable. Like the sound of the voice as described in *Case 3*, of acute inflammation of the brain, it resembles very much the shrill brazen sound produced by speaking through the teeth of a comb covered with paper or thin cloth. It is perfectly distinct from the bellows-sound which accompanies it, and is to be ascribed to another and totally different cause.

All other remedies having been faithfully and perseveringly tried, I recommended the operation of tapping as the dernier resort, and as offering the only chance of restoring the brain to its natural condition, and the child to its accustomed degree of health. This proposition not being acceded to, the case was dismissed without further consideration.

The following October, I was again consulted in regard to the same child. During the time which had intervened between this and my first examination of the child, it had been submitted to the "*tender mercies*" of quackery in its most horrid forms. Pills and powders, hot drops and lobelia, lotions and liniments, *all* had been dealt out with an unsparing hand, and *all* to no purpose. The hot-bath and cold-bath, the shower-bath and vapour-bath had each, also in turn been tried, and all with no better success. Nothing, indeed, could be found which could lighten the child of its unwieldy load.

A measurement of the head indicates an increase in its actual circumference of nearly an inch and a half. The sutures had separated still farther from each other, and an unusual fulness and protuberance of the integuments over them, could not fail to attract the attention of the most careless observer.

On applying my ear to the head, I again recognized the bellows-sound, and equally distinct as before. It is perfectly audible in every portion of the cranium, and cannot easily be mistaken for any other sound.

The same characteristic sound of the voice is also heard, varying in its brazen shrillness, only as the intensity and pitch of the voice is increased or diminished. The vital powers of the body remain much the same; the frame-work still poor and attenuated, and the head still huge and unwieldy. The intellect of the child, as yet, remained apparently untouched, although

the frequent recurrence of convulsions had occasioned the most fearful forebodings of its speedy annihilation. It was an *only child*, and consequently any proposition which would hold out "but a chance for its recovery," would now be most willingly and gratefully acceded to. Drawing off the water by means of a perforation through the skull, or membranes, seemed still to be not only the most feasible, but the only rational method of affecting a cure. *Tapping*, then, was again proposed; and although the operation has been most unceremoniously condemned by such men as Gölis, Heister, Boerhaave and Hecker, and also by one of the most eminent practitioners of medicine in our own country, as "having nothing in it but its hardihood to recommend it;" the circumstances of the case not only rendered it advisable, but imperiously demanded it.

The operation was performed on the following day, after the manner prescribed by Dr. Conquest, of London, and with what success the sequel will show. A small opening was made through the integuments, about midway between the crista gilli process of the ethmoid bone, and the anterior fontanelle.

This place is chosen in preference to any other, as there is at this point less damage of wounding the corpus striatum, on the one hand, and the longitudinal sinus on the other. Through this opening, a small and delicately constructed trochar, made long and somewhat in the shape of a common couching needle, was passed down into one of the lateral ventricles. On withdrawing the instrument, a clear, limpid, watery fluid, at first very slightly tinged with blood, immediately began to flow through the canula from the brain. Compression was steadily and carefully made by an assistant during the operation. *Four ounces* only had been allowed to escape before the child began to show some symptoms of prostration.

Compression was still maintained, while the point of the finger was held over the free end of the canula, and the discharge was at once arrested. Cordials and some little diffusible stimuli were administered, and time given for the system to rally again.

I took this opportunity to examine the head, in order to ascertain what effect might have been produced upon the physical signs, which had been manifest upon previous auscultations. For the first moment or two, with the most careful attention, I was unable to catch the least audible murmur within the cranium. As the child, however, began to revive, I was enabled to detect an exceedingly low, faint and indistinct murmur, but could not for a long time identify it with a common bellows-sound of the head. A very powerful compression of the sides of the head by the assistant, at once developed the true character of the murmur. It, at the moment, began to increase in distinctness, and although not so audible as previous to the operation, it was sufficiently so to prove its *identity* with "cephalic bellows-sound." It increased and diminished just in proportion to the force used in compressing the brain, and when the head was for a moment left free, it entirely disappeared. Compression of the carotids entirely obliterated the sound under every circumstance. After the child had revived again, the discharge was allowed to proceed, and about *five ounces* more of fluid escaped.

The head was now carefully and tightly bandaged with strips of adhesive plaster and a roller, and the child permitted to rest. No untoward symptoms followed the operation, save a slight meningeal irritation, which speedily gave way to appropriate and well-timed remedies.

About three weeks elapsed, and the operation was repeated, and nearly five ounces more of a similar coloured fluid were again extracted.

Previous to the operation, repeated examinations of the head had discovered a well marked bellows-sound. It never was so distinct as before the first operation, although compression of the brain invariably rendered it slightly more perceptible. The peculiar sound of the voice, which also had been present in this case, in like manner, had in a measure changed. From the thrilling, brazen, vibratory sound which had struck so harshly upon the ear, it had become sharper, nearer to the ear and more circumscribed in its locality, and withal, more like the sound of the voice in its natural state. Suffice it to say, all the phenomena which have been described as accompanying this condition of the brain, slowly and gradually disappeared, as the healthful vigour and tone of the system were again re-established.

The child is still alive and in the enjoyment of *unusual health*, and although his head may be a "*mite too large*" for graceful proportions, he is a stout and healthy boy, and in intellectual vigour, not a whit behind the foremost of his age. I have oftentimes had occasion to notice the little fellow, but never as yet have been able to discover the least traces of any thing which would excite a *suspicion* of his early troubles.

CASE II.—This is a case of congenital hydrocephalus, and occurred in the daughter and only child of Mr. S. Its history is soon told. Nine days after the birth of the child, my attention was directed to a strong impulsive tumour, which seemed to rise abruptly from the brain through the anterior fontanelle. It was about the size of the flattened half of an English walnut, and when compressed, evidently produced much distress. The pulsations of the tumour corresponded with the action of the heart and arterial pulse, and was owing to the rise and fall of the brain accompanying this action.

An examination of the head was made by means of auscultation, but without discovering any thing unusual in the physical signs of the brain, except it might be in the sound of the voice. Compression being made directly over the apex of the tumour, through the fontanelle, I noticed that a very slight and faint bellows-sound was developed. This ceased the moment the brain was relieved. The child was naturally feeble, and had never increased much in the size of its body or in strength, and now it began to be afflicted with frequent convulsions and fits. The operation for drawing off the water was performed upon the child at three different periods. At the first trial, three ounces of a turbid, milky fluid were discharged, and it was judged that in addition to this, about the same quantity leaked away during the day and night succeeding the operation. The fits did not recur again for three weeks. On their recurrence, the operation was performed the second time, and three or four ounces of a similar fluid were drawn away. Sixteen days had elapsed, and the operation for the third time was performed with similar results, the interval between the occurrence of the fits growing shorter and shorter after each succeeding operation.

Auscultation, ever after the period of the first operation, discovered none of the usual phenomena, which have been found to accompany other cases of dropsy of the brain; and the operations having at length been discontinued, convulsions closed the miserable existence of my little patient.—Owing to the unwillingness of the friends, no examination of the body after death was made,



CASE III.—This patient was a child of Mr. D——, and like the one which forms the subject of Case 1st, had enjoyed perfect health up to the period of its first dentition. During this period, which was protracted and painful, I was informed by its *medical attendant*, that the child had suffered from “all the symptoms of an aggravated form of acute encephalic inflammation.” The first access of the disease was unusually rapid and severe, amounting almost in this respect, to the suddenness of attack of that disease which constitutes the “*apoplexio hydrocephalica*” of Cullen, or the water stroke [“*Wasserschlag*”] of Gölis. Vomiting and convulsions, which were among the earliest symptoms, were soon followed by a state of somnolence and stupor; dilatation of the pupils of *both eyes*; and strabismus *of the left one*; and indeed, so rapid was its onset, that scarcely had three days elapsed, before the countenance of the child, which usually beamed with beauty and intelligence, was changed into an expression of the most stolid and unmeaning idiocy.

For upwards of three weeks, the child continued in this state, without any striking or material change, every day bringing with it the assurance and consolation, that death would soon relieve it from the pangs of such unutterable suffering and distress. About the end of the fourth week, its peculiar physiognomical expression began to change, and the state of deep and undisturbed somnolence in which the child had for a long time reposed, to be interrupted by a more wakeful one. The agonizing shrieks and cries of the child, which had only seemed to render its repose the more appalling, moreover, gradually became less and less frequent, and nature, once more, seemed to be rallying her forces for the last struggle between life and death. From this time the health of the child gradually improved, attended with a slow and gradual enlargement of the head; and continued so, without any particular interruption, except an “occasional fit,” until June 2d, 1840, three months and eleven days from the time of its first attack.

At this date, the period at which I first saw the child, it presented the following appearance. Head much enlarged, and measures  $17\frac{1}{2}$  inches in circumference. The frontal, and the posterior periphery of the parietal bones very prominent, which, together with the separation which has taken place in the later, along the sagittal suture, gives an appearance of broadness and flatness to the coronal region of the head, which is quite singular. The anterior fontanelle remains unclosed and measures an inch and a half in its longest diameter, and through it, the pulsations of the brain are quite perceptible. The integuments directly over this part, and along the coronal and sagittal sutures, are more prominent than natural, while the skin over the forehead wears a contracted and shrunken appearance. Its countenance is dull and stolid, and its look of idiocy is much enhanced by the slaving protrusion of the tongue from the mouth, and the continual nodding and oscillatory movements of the head. The skin is loose and hangs in folds over the lax and attenuated muscles of the body. The mental powers appear irretrievably ruined, and the bright intellect which had once shone forth in its sprightly and happy movements, has experienced a sad wreck in the general disorder of its brain.

The cephalic bellows-sound in this child also, is very distinct and can be easily recognized by any one, whose attention is directed to it. It is “coarse, abrupt, rasp-like,” and synchronous with the pulsatory motions of the fontanelle and with the action of the arterial pulse. It is audible over every portion of the cranium, and cannot be confounded with any other cephalic murmur. There is another sound also present, heard only during



the cries and screams of the child. It is peculiar, loud, shrill and trembling, and differing from the sound of the voice as heard in most subjects and from the cephalic bellows-sound as already described. As in other cases, compression upon the carotids, sufficient to impede the circulation of blood in the brain, caused a total suspension of this latter abnormal murmur; it affected in no way, however, the unnatural ægophonic sound of the voice, which has been described as being present in this peculiar affection of the brain. Compression, on the other hand, made upon the fontanelles instead of diminishing, evidently increased the intensity of the bellows-sound.

An operation for the relief of the child was recommended, but at once rejected. Bandaging the head tightly, with the internal use of such remedies as *perhaps might be* of service to the unfortunate victim of so formidable a disease, were consequently substituted. From this time, the child was lost sight of, until the succeeding November, about six months from the time of the first date.

*November 20th.*—I was again consulted in regard to the condition of this same child. Its general health has but little improved. It is still unable to walk, or to articulate words in the least degree, and is scarcely able to distinguish the most perfect stranger from its most intimate friends.

Its mental powers have in no way recovered from the shock of the disease. Idiocy is stamped upon every line of its countenance, in spite of the "*wit and intelligence*" which its loving parents can see "*sparkling from its eyes.*" The tongue still hangs drivelling from the mouth, and the head is still lopping from side to side, while the awkward and unmeaning gestures, which, ever and anon, it makes with its arms and fingers' ends, the "*childish pranks*" upon which its fond parents formed their imaginary, but delusive evidence of its remaining wit and cunning. Its fits still recur at intervals, increasing both in the frequency and severity of their attack. The sutures and fontanelle remain as before, and ossification seems scarcely to have progressed a single line. The cephalic bellows-sound is heard quite distinct, and the other phenomena of the brain are the same as on my first examination. Tapping was again recommended, not however with the hope of restoring the brain to the full enjoyment of its healthy and ordinary functions, but as the only means which art could devise, for relieving *the body* of a so cumbersome and unwieldy load. The proposition was acceded to, and with much less reluctance than I had anticipated. Suffice it to say therefore, the operation was performed and in the usual way, by which eight ounces of a thin, milky fluid were discharged from the brain at a single drawing. A similar change in the character of the phenomena, which had been developed and manifested during the progress of the disease, was noticed to take place, as in the other cases. Under the influence of a steady and long continued pressure, the head was again returned to its ordinary proportions, and a healthful vigour, comparatively speaking, was restored to the body again. But not so with the brain: no power of art could again restore to *this*, its primeval and healthy organism. Disease had already done its work of devastation, and the last ray of intellect, which had once beamed so brightly from it, had been for ever extinguished.

*In the Fourth place, I have noticed the cephalic bellows-sound in actual and local compression of the brain.*

Mr. S—, the individual who forms the subject of this case, is a young man 23 years of age, and formerly a resident of Newfield, Me. About five years ago, Nov. 1838—while "*coasting down hill,*" and descending with

very great velocity, he was suddenly brought up, "*head foremost*," against a large rock, which lay in his pathway, partially concealed beneath the snow. The blow took effect on the anterior portion of the left parietal bone, causing a very evident depression of the bone at this point. This state of things was soon succeeded by the occurrence of epileptic fits, the first one taking place but a few months from the time the injury was sustained. Previous to this, however, he had often experienced a dull, heavy, oppressive pain, about the region of the injured part, especially when stooping, with the head and body downward. The immediate accession of the fit was ushered in by a very severe and circumscribed headache, located directly over the region of the depressed portion of the bone. After the first fit, the dull, heavy pain about this part became more common; accompanied with a sensation, "*as if a heavy weight were pressing upon it*." Before the accident above mentioned occurred, he had always enjoyed uniform good health, "*never having had occasion*," to use his own expression, "*to call a physician for a single day*." Ever after, however, a continual and unremitting headache brooded over him, from which only a temporary relief could be obtained, by the most active use of blood-letting and purging. But a few months had elapsed after the *first* before the *second*, and third and fourth attack followed each other in such rapid succession, as to awaken the most serious apprehension for their final results.

In 1841, about three years from the time of the accident, he was admitted into the Massachusetts General Hospital, and was there advised by Dr. Hayward to have the depressed portion of bone removed, by the *Trephine*. But buoyed up with the delusive expectation of being cured by the "*restorative powers of nature alone*," the operation was not submitted to.

In July, 1842, I was called, for the first time, to see him "*in a fit*." I took occasion, therefore, during the state of insensibility into which he had been thrown, to examine the brain, in this condition, and also the physical signs which might be connected with it. On applying my ear carefully to the head, I was not a little surprised to find the same physical phenomena present here, as in the most simple form of cerebral congestion. They were perfectly distinct and audible, but gradually diminished, as sensibility again returned. On examining the external condition of the head, I at once detected the spot which was the seat of all his trouble. Convinced of the inutility, therefore, of any remedies while a portion of bone was thus *locally* compressing the brain, I strenuously advised him to submit to an operation, as the only means which art could afford him, for a speedy and perfect cure.

Anxious to be freed from a disease so troublesome, and at the same time so dangerous to one, whose daily avocation led him amid the whirling machinery of a cotton mill, the proposition was readily acceded to.

*July 25th*, therefore, a portion of bone, one inch in diameter, was removed from the head, directly from over the point where the depression of the skull was the most evident. The bone adhered to the *dura mater* by several small attachments, which were, however, easily torn away, and the integuments of the brain laid bare. The brain, at this point, *was exceedingly tender and sensitive to the touch: the least pressure upon it*, with the finger or handle of the knife, *producing the most exquisite pain*. The *exserrated* portion of bone had scarcely been removed, when the patient expressed himself as experiencing a sensation of the most pleasing relief. The "*load*" which had so long and so heavily pressed upon the brain, had been at once removed, and he felt an exuberance and buoyancy of spirits returning, to which, for a long time, he had been a stranger.

Circumstances forbade any examination of the head being made at the time, or immediately succeeding the operation. On the following day, however, I could discover nothing abnormal about the condition of the brain, either by any of the rational or physical signs of this organ. I noticed, nevertheless, that by pressing pretty forcibly upon the brain, through the opening which had been made in the skull, a very distinct and audible bellows-sound *was created*. It was not so distinct, to be sure, as the sound which I had previously heard, during the state of insensibility which had succeeded the fit, but it was sufficiently distinct to be easily recognized, and to identify it with the common cephalic bellows-sound. It should be stated, moreover, that pressure upon the brain, after the manner prescribed above, sufficiently powerful to develop a *true bellows-sound*, occasioned the most intense suffering and distress to my patient, inducing, at the same time, a feeling similar to that which he had frequently experienced previous to the occurrence of the fits.

It is now nearly one year since the operation, and he has never, but once, during the time, experienced the least symptom of their recurrence; and that was occasioned by a severe blow, which he accidentally received upon the head, directly over that portion of the brain which had been left unprotected by the bone. He has since that time, moreover, passed through a long and severe stage of typhoid fever, brought on by exposure and excessive bodily exertion, without the presence of any important cerebral symptoms supervening upon it. And at the present moment, he is in the enjoyment of full and perfect health, and free from the least trace of any thing which might excite the remotest suspicion of his former troubles. I have thus given a brief resumé of this important and highly interesting case: the presence of the cephalic bellows-sound having formed the chief inducement for mentioning it here, while a fuller and more detailed account of it has been reserved for *another place*.

Observation *Fifth*.—This physical phenomenon of the encephalon has been observed also in *induration, or scirrhus transformation of the substance of the cerebellum*.

CASE.—*January 21, 1842*.—I was called to attend the daughter of Mr. C——, aged eight years. For about two weeks previous to my visit, she had made frequent complaints of a severe pain situated in the right side, just below the hypochondrium, attended with extreme costiveness and loss of appetite. Otherwise than this, she appeared in her usual health, never having been of a constitution so strong and robust, as that of children in general. Her complexion, which is of a *pale lemon colour*, her lustreless eye, the state of *cachexia*, and the sad dejection of her countenance are signs, which, connected with the disordered state of the digestive function, and the languor of both mind and body, are of no ordinary import. In this state of things, the *pain continued*, without suffering any material change, except a temporary amelioration, for six or eight weeks, in spite of every variety of treatment which prudence could dictate. At the end of this period, she began to experience some slight pains in the head, with an excessively annoying, prickling sensation between the first and second vertebrae of the neck; the pains in the head and neck, alternating with that of the abdomen. Within fifteen days from the time of their first access, they had increased so much in the length and severity of their paroxysms, as to elicit from my little patient the most agonizing and heart-rending shrieks.



There was most generally an exacerbation of the paroxysms during the afternoon and first part of the night.

There were usually from *three to six* of these during twenty-four hours, each from thirty-five to forty minutes in duration, accompanied with a slight febrile action, which soon died away as the severity of the paroxysm diminished. *These pains*, like the primary one in the abdomen, seemed to be *little influenced* by the action of remedies, continuing for nearly three months, without any perceptible change or alteration in the rational or physical signs which attended them. It was pretty evident, however, although up to this time, April 17th, I had never been able, by the most careful and repeated examinations of the head by auscultation, to discover any physical sign by which the disease was marked, that there did exist some undefined and obscure lesion of the brain. Three days previous to this date, a new set of symptoms had suddenly supervened, which gave a more open and decided character to the disease in question. Cold rigors, nausea, vomiting, *deep and acute lancinating pains* about the posterior and lower part of the brain, aggravated to the highest degree by an uncontrollable spasmodic affection of the muscles of the nape, were symptoms which could not easily mislead; and singular as it may appear, these symptoms, which were so violent as to require the constant interference of art, never for one moment abated their severity. (except under the action of the most powerful narcotics.) until *the disease itself* had so far benumbed and paralyzed the sensibility of the brain, as to render their presence the less apparent.

It was at this period of the disease, that I first was able to detect the presence of any unnatural sound in the brain. But now, on applying my ear to her head, I can hear a very distinct and audible bellows-sound, together with a slight *impulsive murmur*, which I had never before noticed accompanying this phenomenon. This murmur is quite peculiar, and resembles very nearly, though much fainter, the impulsive sound of the heart when heard through the indurated substance of a lung.

These *two* sounds were not exactly synchronous with each other, the one succeeding the other at the least possible interval; the bellows-sound being prolonged a little beyond the duration of the other sound, in the same manner as the *bruit de soufflet of the heart* is prolonged beyond the impulsive and diastolic sound of that organ.

Compression of the carotids at once obliterated the bellows-sound, while the impulsive murmur was in nowise affected. I noticed these symptoms frequently, and uniformly found them bearing the same relation to each other, as I have already described.

*June 6th.* A little more than *four months* from the commencement of her illness, her extremities, together with the lower part of the abdominal viscera, became affected with paraplegia; and ever after the evacuations of urine and feces were, of consequence, involuntarily voided.

The physical signs which I have before noticed as accompanying this disease, have also suffered a change. The "cephalic bellows-sound" is still quite distinct, while the *impulsive sound* has entirely disappeared. The pains in the head, in no way lessened, have also continued in paroxysms, at longer or shorter intervals, up to the present moment. There are, moreover, present, *double vision*, *dimness* of the sight of both eyes, dilatation of the pupil of the left, and strabismus, with dulness of hearing, and some slight paralysis of the muscles of the face. The intellectual faculties remain intact. I should have mentioned, that succeeding the state of paraplegia, the appetite

became insatiable, large quantities of food being daily consumed, without producing in the stomach the least possible inconvenience.

Matters remained nearly in this condition for nearly *three* weeks, the hearing gradually becoming more and more obtuse, and the vision less and less distinct. I also noticed, at this period, a slight change or modification of the natural sound of the voice, which I had not before heard in this case. It is the *cerebral or encephalic ægophony*, which has been described in a previous case, and which is found to accompany an extravasation of fluid in the cavities and over the membranes of the brain. It was less obvious at this, than at a later period of the disease; sufficiently so, however, to render its identity certain.

The cephalic bellows-sound is still quite distinct, and continued so up to the time when I last saw her, about three weeks previous to her dissolution. I never could discover any recurrence of the *impulsive sound* after the attack of paraplegia. She died at last in a state of apparent asphyxia, brought on as was supposed by her friends, by "a fit of apoplexy." Her intellectual faculties, memory, and judgment, remained untouched to the last; while the organs of sense, one by one, seemed gradually to fail, until the vision had become darkened, the hearing obliterated, and the sense of taste and of smell utterly annihilated.

A severe illness, by which I was confined at the time of the death of this patient, prevented me from examining the morbid changes in the structure of the brain, which I was extremely anxious to discover. Circumstances also prevented any accurate examination of the viscera of the different cavities of the body. The brain was, however, examined by my pupil, Mr. Mason, with the assistance of a neighbouring physician, and from notes preserved by him, I am enabled to present the following statement of the pathological appearances which were exhibited after death, in the substance of the brain.

"On removing the calvarium, the vessels of the *dura mater* were seen swollen and turgid with dark blood. This membrane was but slightly attached to the skull, of a dirty colour, and somewhat thickened in *texture*. Upon its exterior surface, scattered here and there, were cartilaginous granulations, varying in size from a millet-seed to that of a small pea. The substance of the cerebrum appeared in a healthy state. The optic, auditory and olfactory nerves were particularly examined, and found healthy in appearance. Over the surface of the brain, within the cavities of the arachnoid and in the ventricles is found an *unusual* accumulation of a thin, semi-transparent, and slightly turbid fluid, to the amount of five or six ounces. The cerebellum was almost completely disorganized: one lobe being completely softened, and about the consistence of thick cream, and of a dingy yellowish colour, and the other *hard, indurated or scirrhus*, with a softened portion in its interior. This lobe, when cut into, appeared hard and tough, like recent cartilage." A portion of this, which was preserved in spirits, now presents the appearance of thick putty, and is of a dense, fibrous structure, containing in its centre a cavity, from which the softened matter has been washed away by the spirits used for its preservation.

I shall speak, in the *sixth place*, of the *cephalic bellows-sound*, as a symptom of *ossification of the arteries of the brain*.

Mrs. E., the subject of this case, was an elderly lady, of some 70 years of age. I was first called to see her July 10, 1840.

Returning home after the fatigues of a somewhat protracted walk, and a visit to one of her neighbours, where she had *unsparingly indulged* in those

tea-table luxuries so bountifully spread on such occasions, she was suddenly seized with the common symptoms of *cerebral apoplexy*. I saw her soon after the attack, and found her in the following condition, which I transcribe from my Note Book for 1840.—Her breathing was stertorous, slow and deep. Pulse hard, full and throbbing, and preternaturally slow. Face flushed, and the vessels of the head turgid with blood, and prominent from the surface. There was complete loss of consciousness with profound coma and hemiplegia of the left side, indicating an apoplectic effusion into the right hemisphere of the brain. I immediately ausculted the head, expecting to discover the “impulsive sound” spoken of by Dr. Fisher, in his Observations on Cerebral Auscultation, as connected with this particular condition of the brain. I did not, however, discover that sound, but another and wholly different one; and which, taken in connection with the particular case I am about to describe, is a symptom of a peculiar pathognomic interest.

A confused, rough, *blurring* sound, as of a fluid rushing through a tube of a rough, unequal calibre, immediately struck upon the ear. This sound was confined to no particular portion of the cranium, but was heard, with almost equal distinctness, over every portion of it. The recurrence of the sound was by no means frequent, corresponding with the slow and retarded action of the arterial pulse. It was more prolonged, much coarser and less abrupt, than the bellows-sound which has been described in the previous cases, peculiarities which were evidently owing to some other and very different causes.

The patient being plethoric, copious venesection was employed from the arm, and the most rigid and antiphlogistic treatment prescribed.

*July 11th.* To-day I found her nearly the same. The coma was not so profound; and when addressed, she aroused herself, as if conscious of the presence of some one; relapsing immediately into the state of drowsiness, until spoken to again. General bleeding, with the local abstraction of blood by cups from the nape of the neck, was employed, and the internal antiphlogistic treatment continued.

*12th.* Much improved; coma less profound, although a drowsy heaviness still remains. Respiration quite natural when awake, but relapsing into the stertorous when suffered to fall asleep. Hemiplegia of the left side still continues. The sound elicited by auscultation is the same rough, confused and *blurring* one already described, though *its intensity* is much diminished, while in frequency it corresponds with the increased action of the heart and arterial pulsations. This was the “*cephalic bellows-sound*” before spoken of, modified; *this change in its character being owing to some specific change in the condition and character of the blood-vessels of the brain.*

From this state she advanced to nearly a state of complete recovery; some slight hemiplegia always remaining, and the sounds detected by auscultation never being absent from the brain on future exploration.

The reasons which induced the belief that this was a symptom of some chronic and organic change in the blood-vessels of the brain, which had existed a long time prior to this first apoplectic attack, and which was now rapidly advancing to its consummation, are the following; and I state the facts as they were given me by her friends, they occurring previously to any professional or friendly acquaintance of my own with the lady, and of course relate to matters with which, from this cause, I could not be professionally conversant, or obtain any knowledge of, except through this medium.

About two years prior to my first visit to Mrs. E., a very striking change in her character and temperament began to be noticed by her friends.



At the time I saw her, in a phrenological point of view, she would have been considered as possessing a "dull, lymphatic temperament," but by nature she was of the nervo-sanguine. Naturally she was witty, talkative, and a woman "extremely fond of visiting her neighbours," and full of "lively gossip." She was quick and active in the movements of her body as well as in the functions of the brain. Any change therefore, from such a state of circumstances as this, would be more marked, than any similar change in one whose actions and emotions were more obtuse or of a duller cast. But the alteration was the more remarkable in this case, as it comprehended a complete revolution, not only of the mental, but also of the physical faculties in like manner. From being garrulous and witty, she became silent and morose. From a state of apparent unconcern and inattention to the cares of this life, she became melancholy and brooded over such imaginary troubles as had no existence except in the wandering fancies of her brain. Her quick and lively gait gave place to wavering and uncertain footsteps; and by the slightest impulse she was almost sure to be overturned. Her appetite also became insatiable, scarcely allowing any bounds to the immense quantity of food which she daily consumed; and nothing, but a vague hallucination with which she had become impressed, "*that they were coming to want*," could have any influence in restraining it at home. But when abroad, no visions of poverty, and no terrors of want had any power to check her, as she gave free course to her unbridled desires. From such a state of things, plethora and an extreme predisposition to attacks of cerebral apoplexy, might naturally be expected.

Returning then, from one of her neighbours, after having, in her usual manner, made the most unlimited appropriation to herself, of the rich luxuries which had been set before her, she was suddenly attacked, as I have before stated, with the common symptoms of cerebral apoplexy. She, however, in a great measure, recovered from this attack, but never regained the natural functions of her mind. On the contrary, during the eighteen months which intervened between this first and the second attack, her mental faculties became more and more enfeebled—her eye-sight failed her,—she ceased to recognize her nearest friends,—locomotion ceased, and idiocy was stamped upon every line and lineament of her face.

During all this length of time, the bellows-sound of the brain was an unfailing symptom, and auscultation of the head, whenever and wherever it might be made, never for once failed to recognize it. It was always synchronous with the action of the heart, and only varied in clearness and distinctness as the circulation varied in strength and impetuosity.

*September 23, 1841.* She was attacked for the second time with an "apoplectic fit," from which she never obtained any remission or relief.

*Autopsy.*—Head.—On removing the calvarium, the dura mater was found in many places strongly attached to its walls. The vessels of this membrane were also engorged with blood, and *universally incrustated with a thick coating of an ossific or calcareous matter.* On cutting into the substance of the brain, a distinct grit was felt under the knife, such as follows the cutting of a piece of dried sponge. The vessels at the base of the brain, and their ramifications throughout its substance, were completely covered with a calcareous deposit. This seemed to be confined to the outer layers of the arteries, the inner and lining membrane of these vessels being thickened and rugose.

On making a section of the cerebrum, through the centrum ovale majus, about the middle of the right hemisphere, a cicatrix was discovered and the

traces of the coagula, caused by the apoplectic extravasation 18 months previous. About six lines below this, was the sanguineous effusion which had occasioned her death. The substance of the brain was hard, of the consistence of putty, and when cut, its vessels produced the gritty sound I have before described. About the cicatrix of the old effusion the substance of the brain had become softened.

Thorax—Lungs healthy, some slight ossific depositions about the valves of the heart, especially the aortic.

Abdomen—not examined.

In the 7th place, the cephalic bellows-sound has been observed accompanying an aneurism of the basilar artery.\*

CASE.—Aneurism of the basilar artery is a disease of such rare occurrence, the pathognomic and physical signs of which are so obscure, and so little understood, that I shall be pardoned, if, in giving the history of this case, I may seem more prolix than its importance might appear to demand. This disease, being beyond the reach of art, must from its very nature and locality, inevitably prove fatal; and although no knowledge or consideration of its physical signs can in any degree lessen the certainty of so painful a prognosis, yet the importance as well as satisfaction of forming a well grounded diagnosis, of every variety of disease, which may fall under our observation, and thus lessen the chances of error and perplexity into which every one is so liable to fall, render an acquaintance with these physical signs a matter of no small moment.

January 15th, 1841. I was consulted by Mr. S——, aged 37 years, in regard to the nature of a complaint which, he had been told, arose from an affection of the heart. The particular symptom, which was the more immediate cause of trouble to him, was a continued and uninterrupted *buzzing* or *whizzing* noise in his head “*as though*”—to use his own quaint language—“*a swarm of bees had made his head their hive.*” This symptom, together with an obstinate headache and deafness which had induced an extremely nervous and irritable state of the mind, were indications which demanded something more than a passing consideration.

Having for a number of years laboured under hypertrophy and dilatation of the left side of the heart, he had been induced to believe, that the present indication of trouble about the head, “could be nothing more than the noise produced by the impetuosity with which the blood was thrown into the brain.” Accompanying this peculiar *whizzing* sound he occasionally experienced something more than his ordinary dulness of hearing. This, however, was only temporary, and never prolonged more than a few minutes at a time. During these moments of temporary surdity, the *buzzing* sound before referred to, entirely vanished, returning again, however, so soon as

\* Dr. Tweedie, in the second volume of his “Library of Practical Medicine,” speaking of auscultation, as a means of discovering the presence of aneurisms of the cerebral arteries, observes: “Examples of this disease in a sacculated form have been met with even within the cranium, in the internal carotid, vertebral and basilar arteries. In these latter cases the symptoms have been very obscure, such as obstinate headaches, singing in the ears or deafness, with more or less derangement of the sensitive and intellectual faculties, and finally apoplectic fits. It is probable, however, that the careful employment of the stethoscope would, in some of these cases, reveal the existence of a bellows-murmur and facilitate their diagnosis.”

the deafness had passed away. He has also been subject to frequent attacks of epistaxis, and thinks this affords him oftentimes the most decided relief from that most annoying symptom, the buzzing noise in the head. Once in two or three weeks, moreover, he is troubled with a most violent cephalalgia, which is relieved only by the recurrence of the hæmorrhage from the nose. In years gone by, he had frequent recourse to copious venesection; this, however, he had long since abandoned, as a remedy of only temporary and exceedingly doubtful utility.

On applying the stethoscope to the region of the heart, the head and ear are forcibly propelled from the surface of the thorax, over a space extending between the third and seventh ribs. The whole volume of the enlarged organ seems to rise up and to come in forcible contact with the thoracic parietes at every pulsation; and as it falls back again, the "back stroke" or "diastolic impulse" spoken of by Dr. Hope, and ascribed by him to the refilling of the ventricles, is distinctly heard. The impulse of the heart is strong and hammer-like, and its first sound, which is heard, equally, over almost every portion of the chest, terminates in a sort of prolonged "*bruit de soufflet*;" the second sound being but little changed from its natural state.

The impulse of the abdominal aorta is readily felt through the abdominal walls, and by applying my ear to the back, directly over the course of this vessel, a continuation of the bellows-sound, which terminates the first sound of the heart, is distinctly heard, extending up and down the spine along the track of the vessel. Nearly opposite to the last dorsal vertebræ and on a line with the umbilicus, I also heard a very distinct "purring and thrilling sound," which is said to be characteristic of an arterial aneurism. The sound is heard over a space covering four or five square inches. A similar sound, though much fainter, is heard over the upper part of the sternum and the right clavicle. On applying my ear to the head of this gentleman I was immediately struck with a singular phenomenon which presented itself, and which I at once recognized as the very "*bruit de diable*" which had been the source of so great trouble and annoyance to him.

The exact character of the sound, I have discovered, it is impossible to describe; and yet it is so unlike any other sound which I had ever heard in the brain, that it would be difficult, when once recognized, to confound with any other cephalic murmur. It is harsh, rough and accompanied with a *purring*, vibratory thrill which seemed to be communicated to the whole brain. It is quite distinct and audible over every portion of the cranium, and especially through the external auricular foramen of the patient himself.

The *purring* sound or thrill, which renders this murmur so exceedingly unique, is continuous and seems to be prolonged beyond the ordinary duration of the pure bellows-sound of the brain. It accompanies the systole of the heart and consequently corresponds in frequency with its pulsations. Compression made upon the carotids very much enfeebled the sound, never entirely obliterating it, but mellowing it down to a simple bellows murmur.

On describing the peculiar nature of the sound which I had heard to the individual himself, he at once noticed its similarity to the sound which was so unpleasantly and continually audible to his own ear.

I had occasion frequently after this to notice this phenomenon. It was always present, and never for a moment ceased to annoy and disturb the comfort and well-being of the man.

August 22, about seven months from the time at which I first saw this gentleman, being in possession of his usual health, while in the act of stoop-



ing, to raise his little son in his arms, he suddenly fell prostrate upon the floor a corpse.

The following appearances were presented after death.

*Exterior*—The expression of the external features is much like that of individuals dying in a state of asphyxia.

*Thorax*—Lungs healthy though much engorged with blood. Heart enormously enlarged, having become *globular* in its shape, occupying a very considerable portion of the thoracic cavity and lying transversely across it. The thickness of the parietes of the left ventricle was but a few lines less than an inch, while its cavity was distended to such a degree as to be capable of containing a bulk equal to that of a full sized coffee cup. The hypertrophy and dilatation of the right side were less marked. The auricles retain their usual size and appearance. The aorta, from its origin upwards, seemed to be in a state of uniform dilatation. From the arch of the aorta, was an aneurismal enlargement of the vessel, extending along its calibre for the space of one and a half inches. The trace of an incipient aneurism was also discovered in the arteria innominata, near the origin of the right carotid. In the *abdomen*, there was a cylindroid aneurism of the descending aorta, such as has been described by M. Breschet, commencing just below the points where the superior mesenteric and renal arteries are given off, and an evident dilatation likewise of the right external iliac.

*Head*.—Vessels of the dura mater much engorged, and the grooves which formed their beds in the skull, seemed unnaturally deep and furrowed out. Those of the arachnoid and pia mater also congested. Substance of the brain natural both in colour and consistence.

On prosecuting the dissection still farther, and an opening being made through the longitudinal fissure, which separates the two lobes of the cerebellum, toward the base of the brain, a large quantity of loose and coagulated blood was found, extravasated in and about the substance of the cerebellum and lower portions of the cranium. On cutting away portions of the cerebellum at this point, nearly down to the medulla oblongata, I notice directly over the pons varolii, and in the situation which is usually occupied by the basilar artery, the loose edges of a ruptured sac, of no inconsiderable magnitude. A more particular examination at once showed it to be the wreck of an aneurism of the arch of the basilar artery at this part. Appearances seemed to indicate that it must have been not far from the size of a common prune, and of an oblong shape. The fibrous structure of the pons varolii, which in its natural state is so easily recognized, had degenerated into a hard, homogeneous mass. The identity of the sixth pair of nerves, with the thick bundle of filaments of the fifth and also of the seventh pair, amid the bloody and disorganized condition of the parts, could with difficulty be made out. The substance of the cerebellum, about the position of the aneurismal sac, from the long continued pressure which had been made upon it, had become hard and inelastic. Other portions of the brain and medulla oblongata appeared sound.

I shall now speak, *in the 8th and last place*, of the cephalic bellows-sound, together with *one other physical sign*, which I have observed concomitant with, or rather growing out of, this sound, as connected with a *certain hydrencephaloidal disease, and a general state of anæmia*.

The class of hydrencephaloidal diseases, which was first noticed by Dr. Abercrombie, and afterwards more particularly described by Drs. Marshall

Hall and Gooch, received its name from its near resemblance to the *true hydrocephalus*.

The consideration, therefore, of the physical phenomena of a disease which has this remarkable peculiarity, that it produces symptoms which are analogous to, and with difficulty distinguished from those of the severest and most dangerous form of cerebral inflammation, while it depends upon a cause diametrically opposite in its character, cannot be ill-timed nor out of place.

Inflammation, as is well known, is the state of the *most active hyperæmia*. The affection to which we allude, on the contrary, not only accompanies, but is dependent upon a state of anæmia or exsanguinity of the system, which is hardly compatible with life. Indeed, it is the *ghostly pallor of the whole exterior*, which forms the most striking peculiarity of this disease; and since dissections show that the largest and deepest vessels are nearly as destitute of blood as those of the surface, the degree of *pallor* without must be distinctly expressive of the degree of exsanguinity within.

What the exact state of the circulation within the brain may be in this disease, is a matter of some dispute. Marshall Hall speaks of *two* stages of belonging to this affection; *the first, that of irritation; the second, that of torpor*.

"In the first stage," observes this writer, "there are feverishness and sensibility to noises, or on being touched; rapid breathing; sighing and moaning; flatulence and looseness of the bowels; mucous and disordered evacuation."

In the second stage, "the countenance becomes pale; the cheeks cooler or cold; the pupils immovable; the breathing irregular and suspicious; the voice husky; cough makes its appearance, and if the strength decline still farther, crepitus and rattling in the breathing; the evacuations usually are green, and the feet are apt to be cold."

In addition to the symptoms which are laid down by Dr. Hall as marking the different stages of this disease, we also find others, such as throbbing pains in the head, buzzing or whizzing noises in the ears; intolerance of light, convulsions, delirium, &c., all of which are equally present, and mark the first and the stage of excitement of this disease.

During this stage, the head is, unquestionably, the seat of an *atonic diaxis*; the meagre and impoverished condition of the blood being ill adapted to recompense the wants and vitality of an organ of such exceedingly delicate sensorial powers as the brain.

The other states, that of coma, stupor, listlessness, paleness and coldness, on the contrary, bespeak an *atonic congestion* of the organ.

This disease has been spoken of by some late distinguished writers, as being *peculiar to*, or at least as occurring *most frequently* in infants or children between the ages of 1 and 3 years, less frequently in elder children, and still *more rarely* in adults. So far, however, as my own experi-

ence goes in this matter, it by no means accords with this fact. I have quite as frequently had occasion to notice this disease in adults, as in infants or very young children; and in every instance where I have noticed it in adults, it has uniformly occurred in *females* whose systems had been for a long time subjected to the depressing and enervating influences, and the *concomitant evils* of a "factory life." And in no case has it occurred, in which it could not be almost immediately traceable to some obvious cause of a more or less rapid exhaustion of the *blood and nervous system*.

The state of anæmia which invariably accompanies this disease, is in infants most frequently induced by constant or long continued diarrhœa; by improper food; by painful and protracted dentition; by leeching and unnecessary bleeding; or by purgatives injudiciously and improperly employed and persevered in. In adults it is also brought on by "tedious and long neglected diarrhœa;" by frequent and copious hemorrhage from any part of the body; by the exhausting and enervating influence of habitual masturbation, and the long continued and frequent indulgence of the appetite in the use of chalk, charcoal, nutmegs, cloves, brick, lime and many other equally deleterious and disgusting appliances, which a depraved and morbid appetite is so apt to crave.

As has already been stated, this disease, which is induced by so many and so varied causes, in its more aggravated form, especially in infants, so nearly resembles certain of the more acute and dangerous forms of cerebral inflammation, that it becomes a matter of the most absolute necessity to be able, timely and properly to discriminate between two affections, *apparently so very similar, and yet so very dissimilar*.

I shall, therefore, now proceed to notice some of the more obvious, rational signs of this disease, together with one or two physical signs, to which particularly I beg leave to call the attention of the reader for a single moment.

The *first case* which I shall relate, occurred to me in a little boy, the son of Mr. G., aged 14 months. I was called to this child in a "convulsion fit." Previous to this, it had passed through a severe and protracted period of dentition. The child was naturally robust, but now under the depressing influences of teething, weaning, and an unwholesome diet, it had wofully degenerated from its primitive state. Then add to this the fact, that its parents, under the false impression that "*worms* were the sole cause of its troubles," had plied it with the most powerful and long continued drastic purging, and the prognosis of the disease, *whatever that might be*, could be any thing but a favourable one.

The purgative effects of the medicine had already degenerated into a most obstinate and uncontrollable diarrhœa. I found the child in this state of the most complete exhaustion, having but just recovered from the fit, presenting the following appearances.

In its mother's arms, it was lying with its head thrown backward; the mouth and eyes were but partially closed; the eyeballs were rolled upwards, and the cheeks suffused with a deep vermilion blush. The face, on the con-



trary, the head, the ears, indeed the surface of the whole body was pale, and white like marble. The extremities were cool, while a degree of heat about the rest of the system illy comported with the pale and cadaveric appearance of the body. The sensibility of the child was extreme. It was startled at the least *sudden noise* and at the *slightest touch*. Gritting the teeth, groaning, moaning, rolling and tossing the head were incessant. The respiration was hurried and *panting*; and the pulse rapid, *though it may be that it lacked the fulness which characterizes a state of active inflammation*. In addition to the foregoing symptoms, I also detected a strong and well marked bellows-sound in the head of the child. It differed in no way from the same phenomenon which I had been accustomed to associate with an acute inflammation of the brain. It was short, abrupt, rasp-like, and harmonized with the action of the arterial pulsations, and was 142 to the minute.

The disease was very naturally taken for that which its symptoms *immediately* indicated; namely, *acute inflammation of the brain*; and for three days, all the remedial agents usual in such cases, were plied with the utmost vigour. It was all, however, to no purpose. Every day found an aggravation of the symptoms of the preceding one; and it was not until the commencement of the fourth, in which every symptom had increased to such an alarming extent as to threaten immediate dissolution, that the *real nature* of the disease became sufficiently apparent. To-day, while every chance of life seemed to rest upon the hazard of a single throw, I had determined upon making one more and the last effort to suppress, as was supposed, a so violent hyperæmia of the brain. The temporal artery was accordingly exposed, opened, and in the single jet of the pale, colourless, serous-looking fluid which escaped from it, the truth of the whole matter, and the error of my own judgment at once flashed upon me.

This, then, was the condition of the blood, pale, thin, watery, and very nearly resembling, just what it was, pure serum, only slightly tinged with red. Wherever it dropped, whether upon the dress or upon the skin of the child, it scarcely left a stain of the faintest red colour, so far had it deteriorated from its original and healthy state.

All depletion, as a consequence, was now at an end, and for the strictest antiphlogistic treatment which had been so perseveringly persisted in, *tonics* of quinine and steel, stimulants of brandy and wine, with a diet of the most nutritious quality, were instituted without delay. A few days, under such treatment, soon evinced the propriety and judiciousness of the change, and a single week had scarcely elapsed, when the glow and sprightliness of returning life were witnesses of the sure and gradual renovation of the vital powers to their original and healthy state.

I will, in the *second place*, relate another instance of this disease, occurring in the *adult*, in which all the rational and physical signs appertaining to it, were developed in the most remarkable manner.

This case of anæmia and hydrocephaloidal affection, was in Mrs. H., a married lady, aged 28 years. She was the mother of two children, having given birth to the younger one about four months previous to my visiting her. She had recovered from her last accouchement as rapidly as most women, and during the month which immediately followed, had enjoyed her usual health and spirits; no untoward incident befalling her, until about the fifth week from her confinement. She now, for the first time, began to

be troubled with alternate costiveness and diarrhœa; the costiveness, however, soon began to give place, and to be superseded by a severe and most unrelenting diarrhœa. In this state she continued, with only an occasional intermission, for nearly *three months*. At different times during this period, the discharges were as many as twenty-five or thirty in the twenty-four hours; often from twelve to fifteen, and never less than from six to ten. The appetite now began to fail, with an occasional ejection of her food from the stomach. She also now began to experience some darting pains about the abdomen and chest, and especially about the region of the heart and liver; throbbing pains in the head; ringing and buzzing noises in the ears; weakness of the whole body, with a faint, gnawing sensation at the pit of the stomach. At this junction I was called to visit her. I was struck at the singular and uncommon appearance which she presented. Her actions, movements, countenance, every thing about her were expressive of the utmost lassitude and distress; her whole appearance was cadaveric in the highest degree. Her face, lips, and indeed the surface of the whole body, are of the colour of a dingy alabaster. The sclerotica of the eyes is of a bright cerulean colour, and her ears clear and semi-transparent, *like wax*. Ever and anon a bright vermilion flush mantled her cheeks, and soon gave way again to the universal pallor which pervaded the system. Her skin, which was harsh, dry, and hot to the feel, was tinged with a slightly yellowish, dirty colour. Tongue covered with a dry fur, and the inner part of the lips and fauces are nearly, if not quite as pale and colourless as the whole face. Her respiration, which is quite free and easy when quiescent, becomes hurried and irregular on the slightest exertion.

She has no pain which was constant or referable to any particular part, except in the head. This is constant, "throbbing;" occasionally attended with a momentary unconsciousness, and withal, to her the most troublesome and annoying symptom present. Oftentimes it became quite intolerable, requiring the head to be restrained between the hands, or tightly bound with bandages. There is also, sometimes accompanying this distress of the head, a sort of bewilderment of the senses, which is spoken of by her friends, as bordering upon a state of delirium. The eyes become intolerant of light, and the mind excited and irritable in the highest degree.

On applying my ear to the head of this lady, I at once very distinctly recognized the phenomenon which I have before described as accompanying this state of anæmia of the brain. I also noticed very distinct *bruit de soufflet* of the heart. *It is these two sounds which are the source of so much annoyance to my patient*, and especially when reclining for repose.

It is a singular circumstance connected with this phenomenon of the brain, that by compressing the carotids, a great variety of intonations in this sound can be produced, varying according to the different degrees of force applied. At one moment it is a regular *bruit de soufflet*, rough and diffusive; at another moment it is the *bruit de scie*, short and rasp-like; again it is soft and velvet-like, dying away with a faint musical tone; and still again the whole cavity of the cranium seems filled with a sharp, hissing sound, which occasionally becoming short and abrupt, produces a sound in almost exact imitation of the faint, nestling chirping of the little chick.

These sounds, as I have said, can all be developed by the exercise of different degrees of pressure upon one or both carotids; and it is worthy of note, that in a real and acute cerebral inflammation, this change in the character of the true bellows-sound is never noticed.

These symptoms continued, with but slight variation, except a short and

temporary amendment, which had followed the exhibition of some stimulating and chalybeate medicines for nearly two months. At the end of this time, during an interval of my visits, and contrary to previous advice, leeches, which had before been urged and strenuously rejected, were again recommended and applied by a friend, as the *only and sure relief* to the painful sensations and noises which continually haunted her brain. Three were applied to each temple, from the bites of which, for the space of *twelve hours*, the blood continued to ooze out, in spite of the utmost endeavours which were made to restrain it; and until the most alarming symptoms of exhaustion and syncope had supervened. I was again called at this moment, and found her in a state of the most hopeless insensibility. Her countenance, which before wore the *pallor of death*, was now *bleached* to a perfect whiteness. What little of colour and vitality formerly existed in her, were now almost entirely dispelled by the untimely and injudicious interference of friends. Every symptom now presented itself in its most aggravated form. The diarrhœa, which before, in a degree had subsided, now returned with redoubled frequency. The throbbing and beating sensations, which before had been confined to the head, were now transferred to every part of the body. Sharp, lancinating pains darted in every direction over the body; the pulsations of the heart became intermittent, and an universal œdema began to spread itself rapidly throughout the whole system.

The various phenomena, which I had previously noticed in the head, are now present with increased distinctness. The bellows-murmur, *bruit de scie* and chirping sounds, seemed to be mingled promiscuously together. The same musical sounds are also distinctly heard in almost every artery in the body. In the head, in the neck, along the spine, in the thorax and in the abdomen, over the thighs and in the arms, indeed, almost everywhere, were these phenomena present. The advice of the most eminent counsel could not stay the progress of the disease. The system sunk rapidly, beneath the exhausting drain which had been made upon it, and convulsions, delirium, coma and death soon put out the last feeble glimmering of life which remained.

Such are some of the rational, and such the physical phenomena, which belong to this disease. The cases, which have just been related, are extreme ones, yet in the numerous instances of this disease which have come under my observation, I have never known the more prominent of them to be wanting. A strictly hydrocephaloidal state is incompatible with any other condition of the system, except that of anæmia. It is not to be understood, however, that a hydrocephaloidal disease accompanies every instance of anæmia—on the contrary, there are daily occurring instances of this latter disease, without any of the signs which characterize the former.

I have seen numerous instances of excessive menorrhagia, and of chlorosis or anæmia of young females when carried to a high degree, accompanied by violent throbbing pains in the head, the *bruit de scie*, and musical sounds of the arteries of the brain, giddiness, sickness of the stomach, a rapid, jerking pulse, and exalted state of nervous sensibility, delirium and other symptoms of a cephaloidal inflammation, and yet every instance of menorrhagia or chlorosis is not to be regarded as a hydrocephaloidal disease, or even that of anæmia.



I have at this moment, two cases of amenorrhœa, or chlorosis, in young females, the one produced by *excessive onanism*, the other, by an habitual and long continued use of *charcoal and green tea*, in which all the symptoms of an excessive anæmia of the system were for a long time present, without any of the usual symptoms of an hydrocephaloidal affection manifesting themselves. When called to visit them, however, the one had already begun to be affected with spasmodic contractions of the muscles of *the left side* of the face, the left arm and left leg; had also the usual physical signs which accompany this state, with the most violent throbbing pains in the head and neck, a quick, jerking pulse, intolerance of light, hectic, the most extreme sensibility to the least possible noise and delirium. The other was attacked with epileptic fits. In both cases, *bleeding* and the *application* of leeches to the temples was most strenuously urged by their friends, while both, under the liberal and judicious exhibition of quinine, iron, &c. are rapidly recovering.

Profuse uterine hæmorrhage, or even the excessive loss of blood in any manner, is also known to produce symptoms analogous to these; and if long continued and the loss exceed a certain point, throbbing pains and buzzing noises in the head, dizziness, deafness, convulsions, coma and death inevitably ensue.

I have thus, at much greater length than I had contemplated, spoken of the various physical and auscultic phenomena, which are known to accompany certain lesions of the brain. They are such as cannot be detected in a truly physiological state of that organ, and are incompatible with it; they cannot be considered in any other light, therefore, than the *natural phenomena* of certain pathological conditions of the brain.

We have, then, *four* perfectly distinct auscultic phenomena, which are developed by, and which are characteristic of, *particular* pathological states of the encephalon. They are 1. *the cephalic bellows-sound*; 2. *the encephalic or cerebral ægophony*; 3. *the frémissement de cataire or purring thrill*; and 4. *the bruit de poussin, cooing or musical sound*.

The *first of these*, in a pure or modified state, has been noticed as the accompanying phenomenon of *cerebral congestion; acute cerebral inflammation; hydrocephalus; compression of the brain; scirrhus induration of the substance of the brain with softening; ossification of the arteries of the brain, and the hydrencephaloidal disease*.

The *second* has been noticed only in those cases of cerebral disease which are accompanied with effusion and extravasation of fluid in and about the substance of the brain.

The *third*, in aneurism of the basilar artery: and

The *fourth*, which, properly speaking, is only an extraordinary modification of the bellows-sound, is never found accompanying any state of hyperæmia or active inflammation of the brain, and therefore, may be considered strictly pathognomic of a state of *excessive anæmia* of that organ.

We shall now pass to a brief consideration of the locality and the causes of these phenomena.

As it regards the particular sources from whence these different phenomena originate, they are undoubtedly *various*. The ægophonic sound of the voice in these cases, is evidently owing to a different cause, and is differently located from the cephalic bellows-sound; while there can be but little doubt, that the seat of the latter, and that of the "fremissement de cataire," and the cooing or musical sounds, are one and the same. The question then arises, where is the origin or seat of these new auscultic phenomena of the brain?

"From a consideration of the symptoms in the cases cited" by Dr. Fisher, "and the circumstances attending them," he was led to believe that these sounds had their seat and origin "in the arteries." This unquestionably is their true locality, and every circumstance connected with their development goes to confirm this opinion: for it has been shown that these sounds are not only synchronous with the action of the heart, and the pulsations of the arteries, but that they are subject, also, to every little change or variation in their force and frequency, and moreover, that compression of the carotids not only rendered them more feeble and indistinct, but when carried beyond a certain point, entirely obliterated them. It follows, then, even allowing that the arteries are not the *immediate* seat of these phenomena, that the vessels possess *the controlling influence* over their production.

"Assume it as proved, then, that the sound in question proceeded from the arteries, I may farther observe," says the same writer, "that those situated at the base of the brain, were probably the ones in which it originated." "I infer this," continues he, "from a consideration of the peculiar distribution of the arteries within the head. Anatomy teaches us that all the arteries of any considerable size are situated at the base of the brain, and rest on unyielding bony structure. Having passed through their appropriate apertures and osseous canals, they course along upon the base of the skull and in furrows formed for them in the brain, and soon subdivide and spread themselves upon the pia mater, and do not actually enter the substance of the brain until they become mere capillary vessels. There is, therefore, no artery entering the cerebral substance, and no one running over its surface, of sufficient caliber to render it capable of sending forth a bellows-sound, as loud and audible as were those which characterized the above cases. For to produce a bellows-sound in an artery artificially, I find that the artery must be of considerable size, and must rest upon or be in contact with a surface which is solid or somewhat unyielding; otherwise it will not be in a condition required for the development of the sound. Beside the cephalic bellows-sound always accompanied and was synchronous with the pulsatory motions of the cerebral mass; consequently it follows, that the sound must have proceeded from these vessels."—*Am. Journ. Aug. 1838*, p. 298.

Unquestionably the cephalic bellows-sound, in many cases, is owing to

compression of the arteries at the base of the brain; that it is so in all, may admit of doubt. In simple congestion; in the primary stages of inflammation; in actual compression, and in some other conditions of the brain, the arteries, at this point, are undoubtedly the source of the sound; and in all of these cases, so far as my own observations go, the bellows-murmur, comparatively speaking, has been less distinct, fainter, less diffusive, and lacking the coarseness and abruptness which characterize it in some other conditions of this organ. But beside the state of actual compression of the arteries at the base of the skull, which is so much relied on as the immediate cause of this phenomenon, there are other conditions, not dependent upon any state of compression, which are connected with, and are conducive to, the development of this sound. Such, for instance, is the state of ossification of the arteries of the brain; and such, also, is the state of thickening of the internal membrane of these vessels, from inflammation. Indeed, this latter condition is one of the most frequent, as well as natural consequences of a severe inflammatory affection of the brain, and pathological appearances go far to show that the arteries, instead of being *the secondary*, are *the primary seat* of the inflammatory action. Even this state, where the inner surface of the artery is rendered rough or uneven by the swollen and congested points which mark it, is sufficient of itself, to produce a proper bellows-sound. So also is the rough and corrugated condition of the lining membranes of the arteries, when ossified, a sufficient cause for the production of this phenomenon. Indeed, in arteries, as in *all other tubes of an elastic nature*, any resistance to the current of fluid passing through them; any impediment; any thing which can disturb the natural equilibrium of its particles, is the true physical cause of the murmurs produced in them.

Hence, a swollen or contracted state of an artery, by means of inflamed patches along its internal membrane, or a similar, though a more roughened and irregular condition of the volume of these vessels, in a state of ossification, would as readily produce a bellows-sound, as an actual compression of some portion of its caliber.

And again, to produce a bellows-sound "in an artery," it is observed that "it must be of *considerable size*, and *must rest upon, or be in contact* with a surface which is solid and somewhat unyielding; *otherwise it will not be in a condition required for the development of the sound.*"

Here, then, are *two* conditions necessary to the development of a true bellows-sound in an artery. First, the artery must be of "considerable size;" and in the second place, "the artery must rest upon or be in contact with a surface which is solid and somewhat unyielding; otherwise it will not be in a condition required for the development of the sound."

But *how large* an artery must be, or what must be its *exact dimensions* to comport with the idea "of considerable size," is difficult to determine. Surely, arteries of *no inconsiderable size* are to be found diversified over the whole surface of the brain; and yet we are told that there is "no artery



entering the cerebral substance, and no one running over its surface of sufficient caliber to render it capable of sending forth the bellows-sound." And so far, also, as the latter consideration relates to any explanation of the cause of the bellows-sound, by compression, it is an antecedent and necessary condition. Were there no unyielding surface beneath the artery, there could in one sense be no compression; and yet neither of the foregoing conditions are absolutely necessary to the development of a bellows-sound. As has already been observed, the only conditions necessary to the production of this phenomenon is *an inequality or disproportion between the size of the vessel and the quantity of fluid to pass through it*, and by whatever cause this may be produced, whether by inflammation, ossification, compression, rupture or dilatation, or, in whatever condition the artery may be placed, the bellows-sound must necessarily be produced.

So far, then, from *compression* being the sole cause of this sound, or the necessity of the artery being confined to a "solid or unyielding surface" for its development, the very *opposite conditions to these* are found not incompatible with its existence. The cephalic bellows-sound is heard as distinctly, and is as readily produced by *a diminished tension* of the arterial trunks and an existing disproportion between the caliber of the vessels and the quantity of fluid passing through them, as it is by any other concatenation of circumstances; and as the same or similar phenomena are heard in cases of the most perfect anæmia, which is compatible with life, and in arteries, which from their location, are far from being in the requisite position, it follows that the latter consideration is as unnecessary as the former.

The *particular size of the artery*, moreover, is by no means a prerequisite in regard to the actual existence of a bellows-sound. If the necessary conditions are present, a bellows-sound can be, and is produced equally in a very small, or a very large artery; and the only point of difference in the actual manifestation of the *two* sounds is, that in the one it is *perfectly* distinct and audible, while in the other it is perhaps too faint to be cognizable to the senses. Yet it cannot be for a moment questioned, that the phenomenon does actually exist, and that an infinite combination of these very small vessels may assist in making up a bellows-sound, which, if not as distinct as that of a very large one, may, at least, be as readily appreciated.

From these considerations it is evident, that neither compression, nor the position of an artery over a "solid or unyielding surface," nor indeed the size of the arteries, is a necessary condition to the actual development of a bellows-sound; for, as I have already observed, independent of these peculiar conditions, the cephalic bellows-sound, with its numerous modifications, can be produced. Other requisitions than these, are found equally well fitted for the production of such a phenomenon. Such are the contractions or dilatations of the caliber of the arteries; rugosities of its internal membrane;

and any inequalities which may exist between the capacity of the vessels and the amount of fluid to be conveyed through them.

It is true, these all may be considered independent causes; and yet the fact, that a single one of these conditions may be adequate to the production of these phenomena, of itself, is no argument against the presumption, that in like manner each of the others may be a sufficiently adequate cause.

These conditions, separately or combined, I conceive, have existed in each of the cases which have been related, where such cerebral phenomena have been present; and they readily explain the changes and the various modifications which these phenomena undergo, in the numerous instances in which they have been observed.

In the second place, we come to the consideration of the cause of the *encephalic or cerebral ægophony*.

In every instance in which I have noticed this hitherto undescribed cephalic phenomenon, it has been connected, and existed only, with a state of effusion and extravasation of fluid *over the surface of the brain*. I have never been able to detect this change in the character of the voice, *in simple effusion into the ventricles*, nor in any acute or chronic lesion of the brain, except accompanied with effusion and extravasation; consequently, I have been led to consider an extravasation of fluid over the surface of the brain as a prerequisite to the development of this phenomenon. Such a state of the brain, moreover, accords with a similar state, which is known to accompany a similar phenomenon of the lungs. It is owing, therefore, to the natural resonance of the voice being rendered more shrill and brazen by its transmission through a thin layer of fluid in a state of *vibration*. Any other condition of the brain is incompatible with its existence; and wherever this has been present, and the fluid has been subsequently discharged, as in the cases above cited, it has invariably disappeared with the fluid, and never after returned, except with the effusion.

In the third place, for an explanation of the causes which influence the production of the phenomena accompanying aneurism of the basilar artery, I will only observe, they are such as are common to, and are found to exist in, every instance of a similar disease of the arterial membranes; and as such I will only refer the reader to such works as more particularly have reference to the matter in question.

*Fourthly*, the bruit de poussin, cooing or musical sounds, which are found to accompany certain hydrocephaloid affections, may be considered, simply, as a modification of the bellows-sound, and their causes identical.

I have thus, at considerable length, spoken of certain auscultic symptoms, which are found accompanying cerebral disease. They have hitherto, with the single exception of the cephalic bellows-sound, and an "impulsive sound which I have never been able to discover, passed unnoticed; and even when present, they oftentimes escape the attention of the most careful observer. When once detected, however, they are not easily mistaken

for any other phenomena of the brain. Their appearance is perfectly unique, and corresponds with certain pathological conditions of the organs in which they are developed, and such as have already been described. As signs of disease, they cannot, when once established, fail to be a valuable auxiliary to the other means which are used in the diagnosis of the various difficult and obscure lesions of the brain. At least, if they can serve no better purpose, they will stand out as beacon lights, to warn us of the dangers which are at hand.

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ART. II.—*Statistics in Midwifery*. By JOHN GEORGE METCALF, M. D.,  
of Mendon, Mass.

THE study of Midwifery, so far as the impressions of pupilage are remembered, led me to believe that I should more frequently meet with perplexing and dangerous cases in the practice of the obstetric art, than subsequent experience has verified. That alarming and fatal cases do sometimes occur, which put in requisition, to the full extent, the skill as well as the self-possession of the accoucheur, I readily grant; but that the exercise of these qualities is *very frequently* called for cannot be sustained, I am confident, by the testimony of any skilful practitioner.

The late Daniel Thurber, M. D., an eminent and respected physician of this town, in a conversation upon the subject, once told me that the great secret of success in the practice of midwifery very much depended upon *letting the patient alone*. Fresh as I then was from the books and the lecture-room, this was strange doctrine in my ears. What! little or nothing to do in attending a case of midwifery? If this were true, what was to become of all those varied and delicate manipulations by which I was to have the opportunity of exhibiting the great knowledge which I had gleaned from books? And when, if this were the case, and how was I to make an application of the manifold instruments described by Smellie, and Baudelocque, and Denman, and in the use of which I had perfected myself by actual experiment upon a machine made of leather and wood? This was contrary to all my preconceived notions of matters and things in this portion of the field of my future labours; and I take shame to myself that I was not so teachable upon this subject as the great experience and acknowledged skill of the doctor should have rendered me. A few years of practical acquaintance with the subject, however, induced me to yield an unreserved though tardy submission to the excellent precept of Dr. Thurber. And although it may as much astonish those who have just got through with the "*sweating operation*," before the professors or the censors, as it did me, yet, let



me assure my junior brethren, that the proposition is of sound, practical value, and worthy of all acceptance at their hands.

Many unfortunate labours have been made such, I am constrained to believe, by the criminal haste and impatience of the accoucheur. It requires, I am free to confess, no inconsiderable share of mental fortitude, many times, to resist the importunate intreaties of the patient for relief; she will submit to any operation; bear any amount of pain, and assume all the hazard, so that she can be speedily relieved of her troubles. Often, too, I am aware, the time hangs heavy upon us; the hands of the clock, as if in mockery of our anxiety, creep along at a snail's pace; we think of our other patients who have been expecting our visits for the last twenty-four or thirty-six hours; and, although the objurgation. "procul O! procul este profani," is found instinctively upon our lips, yet I dare not deny, that sometimes visions of quiet chambers and refreshing sleep contrasted with uncomfortable quarters and lengthened vigils, may not prompt us to an unseasonable interference with, as they seem to us, the tardy operations of nature. And did this interference always relieve the patient as well as the medical attendant, we should seldom be called to mourn over the disastrous result of our folly and impatience. That the efforts of nature in the act of parturition require assistance at proper times and seasons, and under appropriate circumstances, I have no doubt; but, in rendering this assistance, the comfort and safety of the patient is never to be compromised for the ease or the convenience of the physician.

The universal medical commonwealth, I am sensible, is somewhat divided in opinion in regard to the utility of the *numerical method of observation*. The great physician of La Pitié has his admirers and his opposers as well on this side of the Atlantic as in Europe. By one party, little if any merit is allowed to the system, and its distinguished author is reprobated as a false teacher in the great school of medicine; while, by the other, the system is regarded as the ne plus ultra of inductive philosophy, and its author as the Magnus Apollo of medical truth. The opposers of the numerical method object to its diffuse generalisations, and insist that its results are not to be taken as safe guides in the performance of our clinical duties. Still, they who object to it as a whole, are willing to acknowledge that the system possesses some merit. While they insist upon the importance of a more minute record of the symptoms of individual cases, they concede that there are many advantages resulting from a general consideration of a number of cases so arranged as that the aggregate results may be seen and appreciated at a single glance.

Although there may be found some seeming strength in the objections urged against the numerical method, when it is applied to the study of *disease*, the strength of those objections will be materially lessened when the method is applied to the study of the different stages of *parturition*. In parturition, which, strictly speaking, is a process of health, comparatively

but few circumstances are to be taken into the account in the prosecution of the study or its phenomena. In disease, on the other hand, beside the multitude of modifying considerations already well known and appreciated, the researches of modern physiology, together with the labours of the dissecting-room, are every day bringing to light new symptoms and new lesions; thus continually widening the field for analysis and induction, and consequently rendering it more difficult to deduce any valuable practical generalizations from the almost innumerable number of elementary data.

Not so with the subject of parturition. It is a long while since the knife, even of the transcendental anatomist, has revealed any thing of particular importance to aid us in the study of obstetrics; and the investigations of the physiologist, excepting, perhaps, on the subject of conception, have been narrowed down to an occasional inquiry concerning the nature and office of the umbilical vesicle, or a passing remark upon the spontaneous disruption of the symphysis pubis. Comparatively speaking, then, the phenomena of parturition are few and well settled; and it is to the study of various relations and combinations of these phenomena that we propose, in the present communications, to bring in aid the method of observation recommended and practised by one of the most indefatigable spirits of the present age.

Before proceeding farther, however, I propose to say a few words upon the medical topography of the ordinary circle of my professional visits. That portion of Mendon (the north part) in which I reside, is situated upon a considerable rise of land, lying between West river in Uxbridge and Mill river in Milford. Its surface, for the most part, is undulating; being broken into ridges and hills, some of which rise to a considerable height, and two of which were occupied as stations in the trigonometrical survey of the state. The hills trend, generally, from N.W. to S.E., and the land falls moderately in the same direction. The soil, for the most part, is heavy and moist, being excellent for grass, hay and orcharding. There are no stagnant swamps, marshes, or ponds in the vicinity, and very little of meadow land is to be found in the whole township. The water is generally soft and very excellent to the taste, though a few wells are found where the water is hard. For the last nine years, during which time I have kept a register, the annual mean of the thermometer has varied from  $45^{\circ}$  to  $39.5^{\circ}$ , and the annual range from  $99^{\circ}$  to  $109^{\circ}$ . The prevailing winds are from the S.W. or N.W. For the last sixteen years there have been no prevailing diseases in this part of the town, if we except the influenza and some of the minor exanthemata.

Premising that the cases which are the subject of the succeeding remarks, all occurred prior to the year 1839, I now proceed with the analysis of 300 cases of labour and delivery, upon which I attended as the accoucheur.

*I. The 300 cases of delivery gave birth to 302 children.*

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## II. *Of the duration of labour.*

The following table gives the duration of labour in hours; thus 1 woman was delivered in 1 hour, and so on:—

| Hours in Labour. | No. of Women. | Hours in Labour. | No. of Women. | Hours in Labour. | No. of Women. |
|------------------|---------------|------------------|---------------|------------------|---------------|
| 1                | 1             | 17               | 4             | 40               | 2             |
| 2                | 1             | 18               | 8             | 42               | 1             |
| 3                | 1             | 19               | 1             | 47               | 1             |
| 4                | 7             | 20               | 7             | 48               | 1             |
| 5                | 3             | 21               | 1             | 50               | 1             |
| 6                | 25            | 22               | 1             | 56               | 3             |
| 7                | 5             | 23               | 3             | 60               | 3             |
| 8                | 15            | 24               | 56            | 65               | 1             |
| 9                | 1             | 25               | 1             | 66               | 1             |
| 10               | 8             | 27               | 1             | 67               | 1             |
| 11               | 4             | 28               | 2             | 69               | 1             |
| 12               | 85            | 29               | 1             | 72               | 1             |
| 13               | 5             | 30               | 7             | 85               | 1             |
| 14               | 3             | 32               | 1             | 90               | 1             |
| 15               | 6             | 33               | 1             |                  |               |
| 16               | 2             | 36               | 14            |                  |               |

The two most lengthy labours, those of 85 and 90 hours, were both cases of deformed pelvis, the sacro-pubic diameter being very greatly reduced. In one case, that of 85 hours, the child was expelled by the natural efforts, without the aid of art. The other was delivered by lessening the head and the aid of the blunt hook. As this was the only case of instrumental delivery, it will be seen that the use of instruments occurred only once in 300 cases. Whether this proportion be great or small, compared with the practice in this country, I have no authority for determining. The following table of the proportion of instrumental deliveries, which have occurred in several cities of Europe, is copied from a *Practical Treatise on Midwifery*, by Robert Collins, M. D., of Dublin, to which, as will be seen, I have added the proportion occurring in my own practice.

|                                                         |               |
|---------------------------------------------------------|---------------|
| Dresden Lying-in Hospital, Dr. Carus,                   | 1 in every 13 |
| Geissen, Lying-in Hospital, Dr. Kitgen,                 | 1 " 9         |
| Berlin, La Charité, Dr. Klugé,                          | 1 " 15        |
| Cologne, Lying-in Hospital, Drs. Minden and Merrem,     | 1 " 12        |
| Breslau, Midwifery, Prof. Andrée,                       | 1 " 35        |
| Heidelberg, Private Practice, Nægelè,                   | 1 " 28        |
| Magdeberg, Midwifery Institution, Dr. Voigtel,          | 1 " 5         |
| Breslau, Royal Lying-in Hospital, Dr. Küstner,          | 1 " 36        |
| Marburg, Lying-in Hospital, Dr. Siebold,                | 1 " 9         |
| Vienna, Lying-in Hospital, Dr. Boer,                    | 1 " 96        |
| Paris, Maternité, Madame Boivin,                        | 1 " 183       |
| London, Private Practice, Dr. Merriman,                 | 1 " 98        |
| London, Westminster Dispensary, Dr. Bland,              | 1 " 158       |
| London, do do Dr. A. B. Granville,                      | 1 " 80        |
| Dublin, Wellesley Dispensary, Drs. Cusack and Maunsell, | 1 " 34        |
| Dublin, New Lying-in Hospital, Dr. Beatty,              | 1 " 99        |
| Dublin, Lying-in Hospital, Dr. Joseph Clarke,           | 1 " 162       |
| Dublin, " " Dr. Collins,                                | 1 " 114       |
| Mendon, Private Practice, Dr. John George Metcalf,      | 1 " 300       |



III. *Presentation.*

The following table comprises all the different presentations; thus in 286 children the vertex presented, and so on:—

| Presentation.  | No. of Children. | Presentation. | No. of Children. |
|----------------|------------------|---------------|------------------|
| Vertex,        | 286              | Breech,       | 3                |
| Face,          | 1                | Funis,        | 2                |
| Face to pubis, | 1                | Placenta,     | 1                |
| Both feet,     | 3                | Not known,    | 4                |
| Foot and knee, | 1                |               |                  |

By the foregoing table, it will be seen that the natural presentations, allowing the four cases not known to have been preternatural, were 94.7 per cent. of the whole number, leaving only 5.3 per cent. for all presentations other than the vertex.

The *face presentation* occurred in a rapid labour, and gave no trouble in the delivery. There was nothing in the case worthy of note, save that I was sorely puzzled for a while to make out the presentation. The child's face was very livid, and did not assume its natural colour for some days.

The *face to the pubis presentation* occurred in a long and tedious labour. It was the first case to which I was called, after I came to this town, and was a miscarriage in the eighth month of utero-gestation, occasioned by the brutality of a drunken husband; complicated as it was with a prolapsus of the funis, and stranger as I was to the practice of midwifery, as well as to the people among whom I had located myself; this case, as may well be supposed, gave me no inconsiderable uneasiness. It, however, terminated well; the child, from the prolapsus of and pressure upon the umbilical cord, was lost, but the mother had a speedy recovery.

Of the *three presentations with both feet*, two were lost after the descent of the child as far as the head. In the first case I was not called until after a midwife had exhausted her skill if not her strength upon the delivery, and the child was found quite dead upon my arrival. The delivery was completed without any difficulty, and the patient soon recovered. The other occurred in the early part of my practice, and with a fair trial, except the absence of the uterine contractions, I did not succeed in accomplishing the labour until the child was dead. Perhaps, but for certain vague fears of a dislocated neck, or having a child born minus a head, I might have accomplished the delivery in season to have preserved the child. As it was, however, I was too late, and I could plainly distinguish those convulsive motions, described by authors, as preceding the death of the fœtus. The remaining case was delivered with but little aid, after a labour of twenty-four hours.

The case where *one foot and one knee presented*, being soon converted into a footling presentation, was got along with as far as the head, without difficulty. Here it was arrested, and for a while, resisted my utmost endeavours; but, with the fingers depressing the chin and the exercise of no in-

considerable degree of force, delivery was accomplished in season to preserve the life of the child.

The *breech presentations*, of which there were three, all did well. One of them was attended with the longest uterine contraction I ever witnessed. At its commencement, I was sitting below stairs in conversation with the husband, from whom I was summoned by one of the attendants. On entering the room, I found the patient in strong pain; and, on making an examination, I ascertained that the breech presented, and was rapidly passing through the superior strait of the pelvis. The uterine effort continued without the least intermission, until the delivery was wholly completed. Twenty-five minutes before this I was unable to make out the presentation. It was a fourth labour, and the whole process was accomplished in three hours. From its completion at 8 P. M., until 4 of the clock the next morning, the patient continued very faint; the syncope, at times, being quite alarming. There was a copious hemorrhage for the first hour or two, but I attributed the faintness more to the rapidity of the labour, and the suddenness of the delivery than to that circumstance, the patient being of a very full and plethoric habit. In all three of the cases no trouble was met with at the delivery of the head; with a finger in the mouth, and the chin depressed upon the breast, very little force was requisite to finish the labour.

In both cases where the *funis presented*, the child was dead some time before birth. One occurred in a case to which I was not called until some hours after the pulsation in the cord had ceased. The presentation was natural, the delivery was readily accomplished, and the child, which was a male, was found to be a very large one, weighing  $11\frac{1}{2}$  pounds. It was the fourteenth child. The other case has already been referred to as the face to the pubis presentation, and was a miscarriage in the eighth month. The cord was found prolapsed at the first examination, and I was unable to reduce it behind the presenting part after repeated trials. Dr. Smellie says, "when the cuticle is detached, or nearly so, from the body of a newborn infant it is evidence that the child has been, *for some days*, dead." In this instance the umbilical arteries pulsated strongly for many hours after I was called, and continued to do so until within twelve hours of the birth of the child. The life of the child was also proved by the strong and sensible motions which could be plainly felt through the abdominal parietes; yet, when born, the cuticle was off in many places about the body, and one arm was almost entirely denuded.

The case of *presentation of the placenta* occurred in an abortion at five months. On coming at the residence of the patient, which was five miles distant, I was told that she had been flooding for some time and had become very faint. The attendants were very much alarmed and urged an immediate examination. On complying with their solicitations I found the vagina filled up with what I supposed to be a coagulum; but, a pain occurring at the moment, it was expelled and was found to be the placenta, completely

separated from the fœtus by the rupture of the umbilical cord. A succeeding examination brought on another uterine contraction, and the fœtus was soon afterwards expelled. Pressure upon the abdomen, together with the administration of diffusible stimuli and large doses of acetate of lead and opium, arrested the hæmorrhage. The patient continued extremely feeble for some days, and ultimately recovered after a tedious and protracted convalescence. This was the fourth time that abortion had occurred to the patient, having, in no one of her former pregnancies, arrived at the sixth month. She has since been delivered of a healthy child at the full time.

The cases of *presentation not ascertained*, were those to which I was not called in season, and of which the attendants could give no intelligible account on my arrival. Without being able to ascertain for a certainty, yet from the ease and rapidity of the labours, it is quite probable that these four cases should be classed with the presentations of the vertex. Supposing this to have been the case, we should have had then 290 presentations of the vertex out of 302 births, leaving but 12 preternatural presentations to make up the balance.

#### IV. *Sex.*

| No. of Children. | Males. | Females. |
|------------------|--------|----------|
|                  | 165.   | 137.     |

The table, as may be seen by inspection, gives 55 per cent. for males, and only 45 per cent. for females. Did this proportion hold good through the commonwealth it would give 403,047 males, and only 334,651 females, making a difference, in favour of the males, of 68,396.

But this ratio does not at all tally with the proportion between the two sexes as set down in the Sixth Census of the United States, taken in 1840. I there find the number of females set down at 372,366, and the males at 365,333, thus giving 7,033 more females than males.

By a comparison, however, of the census of 1830 with that of 1840, I find that the disproportion of females has been considerably lessened for the last ten years. The census of 1830 gives 13,989 more females than males, while that of 1840 brings down the excess of females to 7,033; thus making a difference in favour of the males of 6,956 between the two periods of the enumeration. Whether this difference is to be accounted for by an actual gain in the number of males born, or whether our young men have, at last, found out that their own New England (taunted though she may be, by our brethren of the sunny South, with exporting nothing but ice and granite) is to be preferred to the pine barrens of Carolina, or the lithographic cities of the West, are questions which yet remain to be settled.



*V. Hours of Delivery.*

| Hours of Delivery. | No. of Children. | Hours of Delivery. | No. of Children. | Hours of Delivery. | No. of Children. |
|--------------------|------------------|--------------------|------------------|--------------------|------------------|
| 12 N.              | 2                | 8 A. M.            | 10               | 4 P. M.            | 22               |
| 1 A. M.            | 19               | 9 A. M.            | 7                | 5 P. M.            | 14               |
| 2 A. M.            | 17               | 10 A. M.           | 15               | 6 P. M.            | 15               |
| 3 A. M.            | 18               | 11 A. M.           | 12               | 7 P. M.            | 9                |
| 4 A. M.            | 10               | 12 M.              | 16               | 8 P. M.            | 12               |
| 5 A. M.            | 19               | 1 P. M.            | 6                | 9 P. M.            | 10               |
| 6 A. M.            | 12               | 2 P. M.            | 13               | 10 P. M.           | 15               |
| 7 A. M.            | 10               | 3 P. M.            | 7                | 11 P. M.           | 12               |

For the better understanding of the table I will say that it is to be read thus; 2 children were born at midnight; 19 at 1 A. M., and so on. It is not intended to be understood that the children were born exactly at the hour under which they are set down, but that they were born nearer to it than any other.

It is a popular notion, for what reason I know not, that many more children are born in the night than in the day time. An examination of the foregoing table, so far as the number of cases under examination may be allowed to prove the falsity of the supposition, will point to a different conclusion. It will be seen that 151 labours were completed between 12 o'clock at night and 12 o'clock at mid-day, being just one half of the whole number of children born; consequently just as many (151) children were born between mid-day and mid-night. It will be further seen that from 6 o'clock P. M. to 6 o'clock A. M. 155 children were born, and from 6 o'clock A. M. to 6 o'clock P. M. 147 children were born; thus distributing the births pretty equally between the forenoon and the afternoon as well as between the day and the night.

*VI. Number of Pregnancies.*

| No of Pregnancies. | No of Women | No of Pregnancies. | No of Women |
|--------------------|-------------|--------------------|-------------|
| 1                  | 72          | 7                  | 9           |
| 2                  | 54          | 8                  | 5           |
| 3                  | 52          | 9                  | 0           |
| 4                  | 40          | 10                 | 2           |
| 5                  | 38          | 14                 | 2           |
| 6                  | 26          | 0                  | 0           |

Thus, with 72 women, it was the first pregnancy, and so on. The terms, "number of pregnancies," used in this connection, are intended to comprise abortions and miscarriages as well as when the child was carried to the full time. It is probable that this table may not be strictly correct, as in the early part of my practice I was not so particular in my inquiries touching the subject of abortions; and besides, the desire, so generally evinced, to keep such accidents secret, may have sometimes stood in the way to a true and correct answer when the interrogatory was not forgotten.

The want of the age of the mother, I am aware, will render the foregoing table of, comparatively, little practical value. That deficiency, in my note book, I have supplied since the year 1839, when these tables were arranged;

and, should I find leisure or inclination, at some future day, to make further report of the obstetrical cases which have fallen under my observation, the present desideratum will be found in its proper place. As a matter of curiosity it may be noted that the whole number of women (300) had given birth to 993 children; that the *first* pregnancies occurred as often as *once* in every 13 cases; the *second* in every 18; the *third* in every 19; the *fourth* in every 25; the *fifth* in every 26; the *sixth* in every 38; the *seventh* in every 110; the *eighth* in every 198; and the *tenth* and *fourteenth*, each, once in every 496 cases.

#### VII. *Weight of Children.*

| Weight<br>2 lbs. | No. of Children. | No. Males. | No. Females. |
|------------------|------------------|------------|--------------|
| 3                | 3                | 2          | 1            |
| 3                | 1                | 1          | 0            |
| 3½               | 1                | 0          | 1            |
| 4                | 1                | 1          | 0            |
| 4¼               | 1                | 0          | 1            |
| 4½               | 1                | 1          | 0            |
| 5½               | 5                | 2          | 3            |
| 6                | 2                | 1          | 1            |
| 6¼               | 1                | 0          | 1            |
| 6½               | 11               | 4          | 7            |
| 6¾               | 8                | 5          | 3            |
| 7                | 30               | 13         | 17           |
| 7¼               | 15               | 4          | 11           |
| 7½               | 28               | 14         | 14           |
| 7¾               | 9                | 3          | 6            |
| 8                | 40               | 17         | 23           |
| 8¼               | 11               | 6          | 5            |
| 8½               | 28               | 16         | 12           |
| 8¾               | 12               | 6          | 6            |
| 9                | 28               | 20         | 8            |
| 9¼               | 12               | 8          | 4            |
| 9½               | 17               | 15         | 2            |
| 9¾               | 6                | 3          | 3            |
| 10               | 15               | 10         | 5            |
| 10¼              | 2                | 1          | 1            |
| 10½              | 5                | 5          | 0            |
| 10¾              | 4                | 2          | 2            |
| 11               | 3                | 3          | 0            |
| 11½              | 2                | 2          | 0            |

The foregoing table is to be read thus; three children weighing two pounds each, of whom two were males and one a female, and so on. The children which weighed two, three and three and a half pounds, were abortions, at what months I am not able to state. The child weighing four pounds, I was told by the mother, was the largest of all her children at birth, she being then the mother of six. Although all small at birth and rather below the ordinary size at puberty, yet this family, without exception, by the time they arrive at adult age, exceed in stature most of their neighbours. The mother is below the medium standard, while the father is tall, muscular and robust. The two children, one a female and the other a male, weighing respectively four and a quarter and four and a half pounds, were born at the

full period, of healthy mothers, and both did well, although puny and feeble for the first few weeks.

The mean weight of the whole number of children is eight pounds two ounces; of the males eight pounds six ounces; and of the females seven pounds twelve ounces.

#### VIII. *Deliveries in the different months.*

| Months   | No. Deliveries. | Months | No. Deliveries |
|----------|-----------------|--------|----------------|
| January  | 24              | July   | 27             |
| February | 27              | August | 22             |
| March    | 33              | Sept.  | 31             |
| April    | 17              | Oct.   | 22             |
| May      | 27              | Nov.   | 27             |
| June     | 21              | Dec.   | 22             |

By comparison of the seasons it will be perceived that the births were distributed quite equally between the four; spring furnishing 77; summer 70; autumn 80, and winter 73. Of the individual months, March furnished the greatest number, being 33; while the succeeding month, April, furnished the least number, being only 17. Whether the universal custom of changing the yearly residence in the month of April has any connection with the paucity of births in that month, is a question, the decision of which I must abandon to gentlemen deeper in the mysteries of political economy than myself.

#### IX. *Circumstances not classified.*

|                                                   |   |   |   |   |   |
|---------------------------------------------------|---|---|---|---|---|
| Births completed without rupture of the membranes | - | - | - | - | 2 |
| Still-born                                        | - | - | - | - | 7 |
| Abortions                                         | - | - | - | - | 5 |
| Miscarriage                                       | - | - | - | - | 1 |
| Twin cases                                        | - | - | - | - | 2 |
| Children deformed                                 | - | - | - | - | 2 |
| Pelves deformed                                   | - | - | - | - | 2 |
| Spina bifida                                      | - | - | - | - | 1 |
| Illegitimate                                      | - | - | - | - | 3 |
| Puerperal Fever                                   | - | - | - | - | 2 |
| Mortification                                     | - | - | - | - | 1 |
| Convulsions                                       | - | - | - | - | 2 |
| Retained placenta                                 | - | - | - | - | 1 |
| Perineum ruptured during labour                   | - | - | - | - | 1 |
| Ergot given before the birth of the child         | - | - | - | - | 2 |
| Ergot given after the birth of the child          | - | - | - | - | 3 |
| Venesection during labour                         | - | - | - | - | 2 |

There were *two* cases where the membranes were not ruptured until after the delivery of the child. In both cases the membranes were unusually strong; in one very remarkably so. In one case the delivery was accomplished eight or ten minutes before my arrival; but in both the membranes were ruptured and the children saved.

The late Dr. Thurber (the same gentleman to whom I have never before referred in this communication) once related to me a case of this kind, which,



from its infrequent occurrence, and as a curiosity in obstetric practice, is here inserted. I shall use the Doctor's own language in the narration. "I was called," said he, "in haste, to visit a woman at the alms-house in Bellingham, said to have been taken in labour while on the road, and who had been removed to the house by the overseers. On my arrival I was told that the patient had been delivered by the natural pains, but had given birth to a false conception or a monster, and which I was desired to determine. The attendant who was holding the product of delivery, folded in a sheet, declared it must be a monster, for she had felt strong motions in the mass, she was certain, for some minutes after the delivery; and besides all this, to make the matter of the monster more sure, the lady who had officiated as the sage femme averred that there was no navel-string to be found. On examination, judge of my surprise when I found, in the lap of the woman, the whole ovum, placenta and all; with the membranes still entire and the child floating in the liquor amnii. Had I been certain the child was past recovery I should have preserved the whole as an anatomical specimen; having doubts, however, I immediately ruptured the membranes and released the child from its prison house; but notwithstanding long-continued and persevering efforts for that purpose the little one could not be resuscitated."

Of the *seven still-born children* (not including the abortions) four were natural presentations and had been, apparently, some time dead. One was with the face to the pubis and two were footlings. Nothing worthy of record took place during their delivery.

Of the *five cases of abortion*, two were illegitimate. In one of the cases the placenta, after a dangerous hæmorrhage, was delivered before the fœtus; and in all, the flooding was more severe than in ordinary cases at the full time. The case where the placenta presented has already been commented on, and some further notice of the cases of illegitimacy will be found in another place before the close of the present communication.

The *single case of miscarriage*, occurred in the eighth month of gestation. It was a case where there was a prolapsus of the funis, with the face to the pubis, and has been already referred to under the head of presentations. By *miscarriage* I understand the occurrence of labour *after the sixth and before the close of the ninth month*; while the occurrence of labour at any time previous to the *close of the sixth month* is termed an abortion.

Of the *twin cases there were but two*, thus furnishing but *one* case to every 150 labours. This proportion is much smaller than obtains in the countries of Europe. From authentic records we learn that in France, the proportion of twins is *one* in every 95 births; in Germany, *one* in 80; in England *one* in 92; in Scotland *one* in 95; and in Ireland *one* in 62.

Of the cases under present consideration the first was a short labour, and the second child was born within five minutes of the first. The first child was a natural presentation; the second, presented footling; they were both

females. In the second case the children were born, the second after an interval of six hours from the first. The first was born within thirty minutes from the time when the mother woke from a sound sleep, and before even the nearest neighbour, who lived only across the road, could get up (it being night) and dress herself. The patient not dreaming that she was to be delivered of another child, for the present, at least, began to congratulate herself that she should do very well and cheat the Doctor out of his fee beside. It was not long, however, before she began to be afflicted with severe after-pains, and which continuing to increase in severity, and the after-birth not coming away in a reasonable time, induced her and her friends to believe that something or other was not *quite* right, and that it was best to send for the physician after all. I was accordingly summoned to attend, and, on my arrival, found the patient in strong and convulsive throes. I immediately sat down, and making an examination, found the vertex of another child presenting. A few pains accomplished the delivery. The children were, one a male the other a female, and, with the mother, did well. Of the first pair one died in a few weeks of hooping-cough, which was then prevalent in the neighbourhood. In both these cases there were two placentas, and, in both, they were not delivered until after the expulsion of the second child.

*Two cases of deformity* only occurred in the whole number under consideration: being in the proportion of *one* to every 150. In the first case the deformity consisted in the addition of two fingers and two toes, one to each hand and each foot. These were afterwards amputated and the subject reduced to the usual complement of members. The second case was one which very much excited my curiosity, at the time, from the fact that the exact species of deformity was foretold by the mother, before her accouchement. She declared that the child's hands would be articulated to the arm at the elbow, the fore-arm being absent, and that the fingers would be found pointing to the shoulder. She gave as a reason for this that, during her pregnancy, a little brother who had died of dysentery, kept his hands in continual motion about his mouth, for a day or two before his death, having the fore-arm constantly bent upon the humerus. The event of the birth verified her prediction to the letter. In this case also the funis could not have been more than eight inches in length, as it was with great difficulty I could apply the ligatures.

I have witnessed only *two cases of deformed pelves*. They both consisted in the undue shortness of the sacro-pubic diameter. In one case the child was born alive, by the natural efforts, after a tedious labour of 85 hours. It had convulsions for two or three days, after delivery, but finally recovered. In the other, after a labour of 90 hours, delivery was effected by lessening the head and the use of the blunt hook. This patient had a very rapid recovery. It was a natural presentation, and within the first twenty hours the head was firmly locked in the bony strait and the vertex was presenting at the os externum. Notwithstanding the pains were strong and regular for

many hours after this, yet no progress was made in the delivery. After the uterine efforts began to give way the ergot was repeatedly tried, but with no perceptible advantage. The strength and spirits of the mother were admirably sustained. Finding no progress was being made, I now proposed the calling in of counsel. Dr. Bucklin of Hopkington, an experienced and skilful physician, was called. After an examination of the case and a due consideration of the circumstances attending it, it was concluded to make further trial of the ergot. It was accordingly administered, and soon displayed its specific effect; producing severe and long-continued convulsive throes, but all to no avail. The child could not be made to advance though the dose was again repeated. Through all this time, (and the labour had now lasted almost 90 hours,) the patient held out remarkably well. For the last 24 hours she had got some considerable sleep, there was only occasional nausea; no arterial excitement was present; there was no abdominal tenderness, and the external organs of generation, although somewhat swollen, were free from heat or soreness. The mother had felt no motion of the child for the last 36 hours, and, despairing of seeing the labour accomplished by the uterine efforts, we now decided upon an attempt at artificial delivery. The forceps were first used, and although they could be well applied, yet the child could not be moved. A trial with the lever succeeded no better. The head was now opened with the scissors, the brain evacuated, and, with the hook fixed in the margin of the foramen magnum, the delivery was speedily accomplished.

Of the 300 cases there was but *one of spina bifida*. The child survived but a short time, and no liberty for a post-mortem examination could be procured. There was a tumour, of the size of half an orange, upon the dorsal vertebræ, and which evidently communicated with the canal of the spinal column. The forehead was low and retreating, and the expression of the face was decidedly fatuous. The birth was declared, by the mother, to have been premature, though the size and appearance of the child did not seem to support her opinion.

Two of the *three illegitimate children* were abortions. The one born at full time was without the ordinary circle of my professional rides. I was sent for, as I afterwards learned, because, being a stranger to the parties concerned, it was thought the lady would be relieved from the disagreeable necessity of listening to certain impertinent questions usually put on such occasions, touching the paternity of the child, &c. Of the abortions, the mother of one of the children was far gone with pulmonary consumption; and, as she told me, had drunk freely of tansy tea for some days before the occurrence of labour. Her paramour, as she averred, had also offered to procure some "potheary medicine" to expedite the process, if she would take it, but this she declined. In the other case of abortion nothing worthy of note took place during the delivery or afterwards.

Of the *two cases of puerperal fever* only one was at all severe. In



this, the febrile incursion made its appearance on the third day, and was attended by the usual symptoms of that dangerous disease; rigors, long continued; head-ache; acceleration of the pulse; diminished secretion of milk; abdominal tenderness; cessation of the lochial discharge, &c. A vigorous, antiphlogistic treatment and regimen was pursued, and the patient ultimately recovered. She was bled twice and freely, and repeatedly purged with jalap and calomel, and salts and senna. The child was transferred to the bottle; but, at the end of three months, the lacteal secretion returned, the breasts became full and distended, and the child soon deserted the artificial nipple of her bottle for the more natural one of the mother. The other case was slight; a single bleeding, with a dose or two of sulphate of magnesia, completed the cure in a few days.

The *case of mortification* occurred in a young woman, four weeks after confinement with her second child. For the first week succeeding her accouchement no untoward symptom was developed, and all things seemed to promise a speedy recovery. Soon after this, however, she began to fall off and a mild degree of irritative fever supervened. The tongue became red and sore; she had continued headache; bowels close at first, though they soon became and continued loose until the close; skin, after the second or third day, constantly moist and clammy; no appetite; great and constant irritability of the whole muscular system, and very great dejection of the mental powers. Although aided by experienced and competent counsel, no impression was made upon the disease; all our curative efforts were of no avail, and the patient rapidly sunk. During the third week from her confinement, mortification made its appearance upon the calf of the left leg. When first discovered the lividity was about the size of a half dime. This continued to increase, assuming an oval shape, until her death, when it was nearly the size of the palm of the hand. For the last two or three days the patient was affected, for the most of the time, with a low, muttering delirium.

There were *two cases of epileptic convulsions*; one very severe and one slight. The slight case recovered after a single small bleeding and a draught of valerian. In the other the epileptic incursion took place a short time before the birth of the child, and the delivery was accomplished during a convulsion. The placenta was soon brought away and the patient removed to another bed. From this time, the convulsions continued rapidly to increase in frequency and strength for the first forty-eight hours; after which there was a gradual abatement. From the very first attack there was an entire loss of consciousness for the first *four days*; and during a considerable portion of this time, it was with great difficulty the patient could be kept upon the bed by two or three attendants. The treatment consisted in active depletion, accomplished by the lancet, purgatives and enemas. My notes of this case, which were very full and complete, have been mislaid or lost, or I would give the symptoms and treatment more in detail. The before-men-

tioned remedies, together with the adoption of the antiphlogistic regimen, however, constituted the basis of the medical prescription, and under which the patient recovered.

It was not until the morning of the fifth day from her accouchement that the patient showed the least sign of returning consciousness; and never shall I forget the smile of recognition which lighted up a countenance, once more beaming with intelligence, as I paid my morning visit to her bedside. I found she had no recollection of a single occurrence from the first attack until the present morning. The last thing she remembered was an intense and rending pain in the head; which, without doubt, took place just before the epileptic attack. During all this time she did not speak a single word or make a solitary, intelligent sign. On asking her now if she knew that she had become a mother, she answered me, with a smile, "I suppose I have, for I have just heard the cry of an infant in the other room; but I remember nothing since last night, when you was sitting by the side of the bed."

This patient, I afterwards learned, had been attacked with slight fits of epilepsy or hysteria during her pregnancy, but the exact nature of which I was unable to learn, she living at the time, in a distant part of the country. Her recovery was rather slow, but finally became firm and permanent.

The *case of a retained placenta* occurred in a fourteenth labour, and had happened to the patient in two or three prior deliveries. At the present time an alarming hæmorrhage soon came on, after the birth of the child, and the patient presently became faint. Finding the pains trifling, the hæmorrhage continuing, and the means used to prevent it unavailing, I carefully, and without much trouble, introduced the hand into the uterus; and, grasping the partially detached placenta, which I found at the fundus, it was soon safely delivered, the womb contracting slowly as the hand was withdrawn. Nausea and vomiting, attended with severe after-pains, soon followed and continued, with occasional intermissions, for five or six hours. The patient, however, was soon convalescent, and recovered her strength in the usual time.

The *case of rupture of the perineum*, took place in a fifth labour, and with a child of moderate size. The patient lay upon her back upon the middle of the bed, with the knees drawn up and close together. Just as the head was passing the os externum, during a violent pain, she threw her feet suddenly and violently down, and thus, crowding the head backward upon the perineum, it was ruptured. The rupture extended as far as the anus, but the sphincter was uninjured. It gave her some trouble for a few days, but after that I heard no more of it. I have met with one other rupture of the perineum, which occurred in a previous labour and under the management of another physician. The sphincter ani was completely divided and the rupture extended an inch up the rectum. On inquiry, I found she had never been able to command the fecal discharge, when any looseness of the bowels prevails, since the time of the injury.

With regard to the *use of ergot*, I have given it but *twice before the birth of the child*. In both the head was pressing upon the external organs; the parts were well dilated, and the uterine pains were nearly if not quite absent. One of the cases was complicated with a deformed pelvis, and the ergot was repeated more than once before the trial was abandoned. In both the specific effects of the medicine was soon produced, and in one the labour was soon completed. In the other the most violent contractions failed to accomplish the delivery, and, after ineffectual attempts to bring the child with the lever and forceps, craniotomy was resorted to.

I was once in attendance upon a long and tedious case of midwifery, when the uterine contractions were, at last, almost wholly suspended. The period of the labour, the low descent of the head, together with the dilatability of the external organs, made it a case where the use of the ergot was fully justified. The proposal was made to the patient, that a trial should be made with it; but she obstinately refused, alleging, that she had suffered from its administration in a former labour. But after waiting for another hour, and no return of the pains appearing, she very reluctantly consented to submit to its exhibition. On examining my medicine, however, I found I had none with me; and, as I was some way from home, I concluded to let a strong dose of black tea, seasoned with a little tincture of cinnamon, pass with my patient, for the so much dreaded decoction of ergot; trusting to the effect upon the imagination, for the hoped for result. The potion was administered with due gravity of face, and taking out my watch, I predicted that the pains would be produced in the course of twenty-five or thirty minutes at farthest. The attendants were directed to get in readiness for the reception of the new comer; while I sat down very deliberately, making what display I could with the ligatures and scissors, to await the operation of the prescription. True to the prediction, after the lapse of a little more than twenty minutes, the hitherto suspended, or scarcely perceptible contractions of the uterus began to increase, and, in the course of fifteen minutes more, were strong as I could wish. A few striving pains finished the delivery.

Now, whether these pains were the consequence of the recollection, by the patient, of the trial of the ergot in a previous labour, assisted by the mental associations connected with its operation; or whether their occurrence was simply a fortuitous coincidence, are questions I will not pretend to decide. I will only say, that I was relieved soon after the dose of tea and cinnamon was taken, from a state of much anxiety and suspense; glad to see the case favourably terminated for any reason.

*The ergot given in three cases after the birth of the child*, was for uterine hæmorrhage; and in all three, the hæmorrhage was soon measurably checked. I, however, more generally use the liquor cupri sulphatis of the American Pharmacopœia, or the acetate of lead and opium.

*Venesection was practised during labour in only two cases*, and in both, with the happiest results. In both cases the os uteri, as well as the external



organs, were rigid and unyielding, although the pains were strong and frequently recurrent. Both subjects were full and plethoric habits, and robust constitutions; and in both, the venesection was carried to the extent of decidedly affecting the system. Dilatation of the mouth of the womb soon followed, and delivery was speedily accomplished.

Having now concluded the recital of such observations, of a practical nature, as have occurred to me in recapitulating the preceding tabular statements, I propose to trespass no farther upon the indulgence of the reader at this time, than to close this paper with a few general remarks upon the *practice* of midwifery.

In the practice of this branch of our profession, the physician is sometimes placed in situations peculiarly adapted, not only to try his patience, but to call for the prompt and fearless exercise of some of the most important of his professional duties;—duties, the merits or demerits of which, are only judged of by the success or failure which follows their discharge; without the remotest reference to the propriety of their adoption, or the skill with which they have been performed. Like the political rebel, the doctor is deified or damned, solely by the triumphant or disastrous issue of the case. No matter if he has displayed the most consummate skill; no matter if his duty has been performed at the most opportune moment; no matter, if from the beginning, he has given an unfavourable prognosis; if he fails to accomplish what is, at present, beyond the reach of art, he is at once condemned, without benefit of clergy. And if the desired period ever arrives, it will only be after years of unheeded and unrequited toil, that he can retrieve his character as an accoucheur.

But, notwithstanding the manifold hazards of professional shipwreck, we should discharge our duties faithfully and fearlessly; disregarding alike every selfish suggestion, and every slavish fear which would lead us to hesitate or doubt. Situations will sometimes occur in the practice of midwifery, where, from the urgency of the symptoms, we are precluded from the aid of counsel, or even a reference to the library; and here the physician must depend entirely upon himself. Here he will learn how necessary it is to acquire that decision of character and concentration of thought, which, in the hour of danger, will secure him an honourable retreat, if not a glorious victory.

Never be deterred from doing whatever you believe important for the relief of the patient, by the fears, or indecision, or clamour of the attendants. Take counsel of your own judgment, and bide the issue. Having made up your mind that the efforts of nature are incompetent to the performance of the task, and that your interference has become necessary, never go to work with hesitation or precipitancy. Be calm, cool, and deliberate in every step of your operations. Never betray, by any ambiguous expressions, doubts of the necessity or the propriety of whatever you propose to do. Be careful also, that the eye or the hand does not contradict the professions of the

tongue. Make no unnecessary display of your tools, if you must use them, either to impress the patient with the importance of the operation, or raise the wonder of the attendants. In difficult cases, if the urgency of the symptoms does not prevent, avail yourself of the benefit of counsel, and never be obstinate if the patient or her friends anticipate you in its recommendation. I am satisfied that your acquiescence in her suggestions, on this point, will beget in your patient a stronger confidence than your opposition to them.

Do not interfere with the operation of the natural machinery of parturition; so long as there is a reasonable prospect, it will accomplish the process without your help. A physician of much experience in the obstetric art, once remarked, in my presence, that he believed many children were lost in those cases where ergot was given to expedite the labour. If this be the case, we should then be wary of its employment. We should never use it barely because we have a lengthy labour, and desire to have it completed. We should wait, unless the condition of the mother demands its administration; or the head is so low that we are *sure* a few pains will finish the delivery.

Physicians are sometimes applied to for the procurement of abortions, but such solicitations should always be resisted; unless, indeed, the condition of the mother should justify our interference. Such instances, however, are very infrequent, and should only be determined on after consultation.

Finally, be not discouraged that business and confidence come slow. Deserve them, and you will be sure, sooner or later, to find your reward. Study to be affable and condescending to all; remembering that it is your duty to sympathize, in an especial manner, with the sick and afflicted, as well as to cure their diseases. Despair not when you see the pedlar of some wonderful specific, carrying the town in which you live by storm. Envy not the arrogant quack, who, by the help of some contemptible trick of professional legerdemain, often builds up a character in a single night, for the reason, that nature has accomplished her purposes in spite of his blunders. Remember "the race is not always to the swift, nor the battle to the strong," and be comforted.

MENDON, *April*, 1843.

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ART. III.—*Clinical Report of Cases, treated in the Medical Wards of the Pennsylvania Hospital, during the months of March, April, May, and June*, 1843. By WILLIAM PEPPER, M. D., one of the Physicians to the Hospital.

DURING the term embraced in this report, several cases of pleurisy, pneumonia, bronchitis, intermittent and typhoid fever, were admitted into the

hospital; but, as is usual during the spring months, the diseases were chiefly of a chronic character—including numerous cases of phthisis, organic diseases of the heart, visceral enlargements following protracted intermittent, and various affections of the liver and kidneys. The following cases are selected, as presenting some points of interest.

CASE I.—*Typhoid fever—difficulty of diagnosis—morbid appearances.*  
—Leonora H., aged 37, single, mantuamaker, entered the hospital May 7th. 1843. One week ago she had a chill, followed by severe headache and fever; and for several days after the commencement of the attack, she had three or four liquid stools per day, but the stomach has been retentive throughout. It was also stated, that the patient had been at times slightly delirious and indisposed to answer questions. On entering, the pulse was 95, and feeble; tongue white; skin hot and dry; she complained of headache, and had considerable thirst, but no appetite. About twelve rose-coloured spots were observed on the abdomen; they were slightly elevated, of an oval form, and disappeared under pressure. Towards evening she became delirious, and disposed to quit her bed; during the day she took pil. hydrarg. gr. vi., which in two hours were followed by four copious liquid stools. Diet restricted to barley water or thin gruel;—mist. neutral. occasionally during the night.

8th. This morning she is perfectly free from delirium, and answers questions with great promptness and precision; face slightly flushed; eyes sunken, but not injected; no complaint of headache; eruption faded. Towards evening her pulse rose from 100 to 110, the heat of surface was also slightly increased, and the delirium returned. During the day she had two involuntary discharges of thin yellow fæces. Injection containing a few drops of laudanum, liquor acetat. ammoniæ  $\zeta$ ss. every three hours, to be substituted for mist. neutral.

9th. Her memory is feeble and confused, and she obstinately refuses to take medicine or nourishment; pulse 100, and more feeble; conjunctiva slightly injected; no return of diarrhœa. A few sudamina were now observed on the neck and abdomen, but the rose-coloured eruption had entirely disappeared. She passed a tranquil night, and the following day was less delirious, but in other respects there was no important change in the symptoms. Sulph. quiniæ, gr. j. every other hour during the day, with an occasional tablespoonful of wine whey; liquor acetat. ammoniæ, to be continued during the evening exacerbation.

11th. Respiration perfectly natural, and no rhonchus to be detected in any part of the chest. The skin was now moist; and some subsultus tendinum, and tremor of the hands were observed for the first time; bowels constipated; tongue and pulse as at last report. In the evening her delirium became of a more violent character; she occasionally struck at the attendants, and had to be restrained in her bed. Blister to back of neck; mucilaginous enema; pulv. ipecac. et opii, grs. v. at bedtime.

12th. Capillary circulation more languid, with greater injection of the conjunctiva; she refuses to answer all questions, but the delirium is decidedly more tranquil than last evening. The tongue still continues white and moist, nor has there been any return of the diarrhœa; pulse 105. Pupils natural; some subsultus, and temporary rigidity of upper extremities. About  $\zeta$ iv. of blood were drawn by cups from the temples, and from behind



the ears. The feebleness of pulse, and general prostration required that the quinia and wine whey should be continued as before directed.

The patient continued in nearly the same condition up to the 14th. Pulse 120, small, compressible, bis feriens; tongue slightly dry; subsultus diminished. She is less delirious, and perfectly tranquil; and, notwithstanding her alarming condition, expresses herself as feeling much better, or even perfectly well, and free from all suffering; urine sufficiently copious, and voided with facility; one liquid stool during the day. Same treatment continued.

15th. Last evening she became more prostrate; the pulse was irregular, and the face and extremities cold. In the morning, the tongue was brown and dry; pulse 135, and extremely feeble; the delirium had not increased, nor was there any return of the abdominal symptoms. Carb. ammonia, milk punch, beef tea, &c., were administered from time to time; but the patient continued to sink, and expired on the evening of the 17th, without having had convulsions or comatose symptoms.

*Autopsy* the following day.—At the lower part of the ileum, adjoining the valve and opposite the insertion of the mesentery, was a superficial ulcer about an inch in diameter, and extending down to the subjacent cellular tissue, which was slightly thickened and indurated. Several of Peyer's glands in the lower part of the small intestine were injected and tumid; about six inches above the ileo-cæcal valve was an ulcer four lines long, and two wide, with perpendicular edges, and excavated down to the peritoneum; and two feet above the valve, opposite the insertion of the mesentery, was another ulcer precisely similar to the one last described; corresponding mesenteric glands greatly enlarged, softened, and engorged. Liver slightly congested; gall-bladder filled with small gallstones, composed chiefly of cholesterine, whole number 123, weight of largest,  $21\frac{1}{2}$  grs.; spleen soft, but not enlarged; other abdominal viscera healthy. Heart and lungs natural.

*Brain.* The arachnoid membrane at the summit of the hemispheres, particularly in the course of the large vessels, was slightly opaque, but not thickened; and about two ounces of limpid serum were contained under that membrane. Pia mater not injected, nor adherent to the cortical substance. Brain pale, and of good consistence—no effusion into the ventricles.

The diagnosis in the above case was attended with some difficulty. The patient had neither stupor nor dulness of hearing; at no time during her illness was there epistaxis, or complaint of abdominal pain; moreover, the age of the patient, and the fact of her having resided in the city for a number of years—all tended to render the existence of typhoid fever improbable. In fact, nothing but the slight diarrhœa, and rose-coloured eruption, led to a suspicion of that disease; and even these symptoms were not sufficiently marked or permanent to remove all doubts. That such, however, was the case, is confirmed by the appearance of the intestinal and mesenteric glands. It has been observed, that those cases of typhoid fever which are comparatively latent, are most liable to terminate in perforation of the intestine; and such, most probably, would have been the result in the above case, had the patient survived several days longer.

It is not improbable that the slight opacity and sub-arachnoid effusion, were the result of inflammation, which must in some degree have obscured the general typhoid symptoms, and also tended to hasten a fatal termination. Too much importance, however, should not be attached to this condition of the arachnoid; since far more extensive lesions have been observed in fatal cases of typhoid fever, which had presented no cerebral symptoms—thus rendering it highly probable, that such lesions had occurred only a short time before death.

In connection with the anatomical appearances it may be observed, that notwithstanding the number of biliary calculi found in the gall-bladder (most of which were evidently of old formation), the patient had never had pain, jaundice, or other symptom indicative of their existence.

**CASE II.—*Acute Phthisis.***—Mary W——, aged 15 years, entered the hospital April 23, 1843. The following history was obtained from her friends. In January last her menses made their appearance for the first time, but since then they have not recurred. Several years ago, her mother died with consumption, and one of her sisters is now suffering with that disease; but our patient has enjoyed good health until seven weeks before entering the hospital, and has been regularly employed as a domestic in a private family. Her disease was ushered in by a chill, followed by high fever, cough, and pain in the chest; for which symptoms she was bled, and confined to bed for several weeks. Several days after the commencement of her attack she is said to have had hæmoptysis, but the amount of blood discharged could not be ascertained.

Upon admission, the case presented the following symptoms:—Dyspnœa, with lividity of the lips, and dilatation of the nostrils; respiration 40, and pulse 120 per minute. She expectorates about one ounce of thin watery mucus during the day; the cough is troublesome, and attended with some pain under left clavicle. Skin hot and moist; cheeks flushed, and forming a striking contrast with the general pallor of the face:—Emaciation but moderate.

**Physical signs.**—Dull percussion under left clavicle, with mucous rattle which completely masked the respiratory murmur; but there was no resonance of the voice at this part. At the upper third of left lung, behind, the respiration was slightly bronchial, and attended by a crepitant rattle—resonance of the voice, and dulness on percussion over the same extent. The vesicular murmur was remarkably feeble throughout the lower part of left lung; but the percussion was natural. Nothing abnormal could be detected on the right side.

Vini ipecac. ʒss. in mucilage every three hours. Tinct. digital. gtt. x. three times a day was also directed. The pain under left clavicle was greatly relieved by the application of 15 leeches. Diet restricted to broth.

Under the above treatment the symptoms gradually improved; and April 29th the fever, dyspnœa, and cough had so much abated, that the patient was enabled to sit up. The physical signs continued the same as at last report.

**May 6th.** Hectic fever, and copious perspiration; the expectoration still consists of watery mucus. Emaciation rapidly increasing. Crepitant râle at upper and posterior part of left lung, replaced by a large mucous rattle.

The tinct. digital. was now omitted, and solut. hydriod. ferri gtt. vi. to be used three times a day. Frictions with croton oil under left clavicle.

Up to the 9th, there was no important change in the general symptoms; but distinct gurgling, and bronchial respiration could be heard under left clavicle, and in this region the percussio was perfectly flat. The motion of the left side of the thorax was greatly diminished. Some puriform matter was now, for the first time, observed in the sputa.

16th. For the last few days the symptoms have been rapidly increasing; face flushed, great heat of surface, pulse 100 and feeble; respiration 45 per minute. The expectoration is decidedly puriform, and exceeding two ounces per day. The signs indicative of a cavity (cavernous respiration, pectoriloquy, and gurgling) were heard under left clavicle. The vesicular murmur, which hitherto had remained perfectly natural on the right side, was now entirely masked by sonorous, sibilant, and mucous rattles. During the evening exacerbations, mist. neutral.  $\mathfrak{z}$ ss. was occasionally administered; and in the mornings the sol. hydriod. ferri was continued, as before mentioned.

25th. Symptoms aggravated. The fever is now continuous, and attended with a rapid pulse, great dyspnœa, lividity of cheeks, lips and nails, and copious perspiration. The emaciation and prostration have also greatly increased. Stomach irritable; expectoration as before. The same treatment was continued, excepting that small portions of morphia were substituted for the vinum ipecac.

From this time the patient gradually became more feeble and emaciated. The difficulty of breathing was very distressing, and she was obliged to sleep with the mouth wide open; tongue brown and dry; teeth covered with sordes; anterior part of chest and neck dotted with sudamina. No cerebral or abdominal symptoms supervened, and the patient expressed herself as free from all suffering. Her strength was sustained for several days by wine whey and beef tea; but she gradually sank, and expired June 2, just forty days from the time of admission, and about twelve weeks from the commencement of the attack.

From the previous history of the case, it appears highly probable that the copious deposit of tubercles in the upper lobe of left lung was induced, or, at least, greatly increased by a previous attack of pneumonia, either primary or secondary. The crepitant rattle and other local signs induced me to suspect the intercurrent form; and it was under this view that leeches and nauseating remedies were first directed. That the local inflammation was of this character, is rendered the more probable by the fact, that the summit of the left lung is precisely the locality where tubercles are first formed and most developed; whereas, primary pneumonia most commonly affects the lower lobes of the right lung. It should, however, be remembered that in young persons numerous exceptions are found to these pathological laws. Thus, in acute phthisis, cavities sometimes occur in the lower lobes; but more commonly, the tubercles are disseminated throughout the lungs, and prove fatal before softening, or the formation of cavities; and, with regard to primary pneumonia—it is now fully ascertained that in infancy and old age the upper lobes are not unfrequently affected; and, if we may judge from



a number of cases that have fallen under our observation, the same remark might be applied to young persons between the ages of 10 and 16 years.

**CASE III.—*Phthisis—œdema of left arm—examination post-mortem.***—William S—, aged 60, seaman, entered the hospital March 14, 1843. He stated that eighteen months ago he was first troubled with slight cough, but that his health was not much impaired until November last; about which time he had spitting of blood, followed by an increase of cough, and gradual emaciation. He has never had pain in his chest, none of his family have died of consumption, nor could he trace his present indisposition to any adequate cause. On entering, he presented the following condition:—Pulse natural; emaciation moderate; no hectic symptoms; he expectorates about three ounces of puriform matter per day, and complains of slight debility. Under the left clavicle the percussion is dull, voice slightly resonant, and expiration prolonged; but no rhonchus could be detected at this part. The vesicular murmur was very feeble at the upper part of the lungs posteriorly; but towards the base, the respiration was puerile. Sol. hydriod. ferri gtt. vi. three times a day—to be gradually increased to ten drops. Nutritious diet.

No change in the symptoms occurred up to April 7th, at which time he had slight bloody expectoration, and some excitement of pulse. The physical signs continued the same, excepting that some mucous rattle could now be detected under the left clavicle. The sol. hydriod. ferri was now omitted, and an infusion of *prunus virginiana*, with small portions of morphia, substituted. Under this treatment the bloody expectoration soon ceased.

25th. Hectic fever, and copious perspiration; increased debility; expectoration puriform, one ounce per day. Distinct gurgling under left clavicle; percussion flat from clavicle down to left nipple. Sonorous rhonchus under right clavicle. He now uses iodid. potass. grs. v. three times a day. Nutritious diet, and porter.

May 6th. For the last few days his expectoration has gradually increased, and now amounts to about five ounces per day. The emaciation has also evidently increased, and the patient is obliged to keep his bed. Pulse feeble and frequent; skin constantly covered with perspiration. Behind the fourth rib and near its sternal extremity, there is amphoric respiration, resonance of the voice, and gurgling—obscure percussion under right clavicle, and subcrepitant rhonchus at same part. The anterior part of the chest below the left clavicle is evidently contracted, but the space above the clavicle is distended by a great enlargement of the veins at the lower part of the neck.

11th. After a small dose of *oleum ricini* the patient was seized with severe diarrhœa, which produced great prostration, but was soon checked by mist. cretæ præparatæ and anodyne enemata. Features collapsed; pulse 120, and feeble; extremities cold, and covered with perspiration; voice reduced to a mere whisper; sputa nummular, exceeding five ounces. Considerable lividity of the face and left arm, which latter was also œdematous. The left external jugular was tortuous and distended. From this time the above symptoms became aggravated; and notwithstanding a nutritious diet, and stimulating plan of treatment, had been instituted, his strength was rapidly exhausted, and he expired May 21st.

*Autopsy* the following day.

A large, anfractuous cavity occupied the entire anterior surface of the upper lobe of left lung; the upper portion of the excavation was lined by an adventitious membrane, but below, the walls were formed by the pulmonary

tissue filled with tubercles. The right lung contained numerous tubercles in various stages of development. The summit of the left lung was invested by dense false membranes, and the cellular tissue exterior to the pleura was also greatly indurated, forming a cartilaginous mass more than half an inch thick. Both lungs adhered firmly to the costal pleura.

The larynx was completely ossified, and this degeneration had also extended to the root of the epiglottis. Near the left ventricle of Morgagni there was a small superficial ulcer. Several large ulcers were found in the upper part of the colon, but the small intestine was perfectly healthy.

The left vena innominata, at its upper part, was obstructed by a firm fibrinous concretion, which extended for some distance into the left subclavian and internal jugular. The concretion was formed of concentric layers, and adhered firmly to the valves and internal coat of the veins.

From the previous symptoms it will be perceived that the patient had evidently been labouring under phthisical symptoms for eighteen months previous to his admission; and, that during this time the disease had—as is usual in advanced life—progressed but slowly. When, however, the tubercles began to soften, the case advanced with great rapidity: the first indication of softening commenced April 7th, and by the 6th of the following month a large cavity had formed in the upper lobe of the left lung.

The anatomical appearances fully explain the distended condition of the veins above the left clavicle, and the consequent lividity and œdema of the left arm. The cause of the fibrinous concretion is not so easily ascertained; it appeared, however, to be due to the cartilaginous mass at the summit of left lung, pressing upon the extremity of the vena innominata, and thus obstructing the return of venous blood. There were no indications of a local phlebitis; for, although the inner coat of the veins was of a purple colour, this appearance was evidently the mere effect of imbibition.

**CASE IV.—*Phthisis, with large cavities confined to lower lobes.***—John M'F—, ætat. 19. This patient had been employed in a coal-mine, and stated that the left side of his chest was frequently bruised by the handle of a rake used at his work. Though minutely questioned upon this point, it could not be ascertained that he had any hereditary predisposition to consumption; nor had he ever had hæmoptysis. At the commencement of December 1842, he had a permanent dull pain under the left nipple, but his health continued good until the month of March following, about which time there was some cough, and his strength began gradually to fail.

He entered the hospital May 24th, 1843, presenting the following symptoms. The emaciation is but moderate, nor is his strength greatly reduced; face pale and bloated; pulse 80; skin cool; tongue natural; slight dyspnœa. Towards evening he has rigors, followed by fever and perspiration; and he expectorates about  $\frac{3}{4}$  j. of yellow puriform matter during the day. Physical signs:—The left side of the chest at its lower part is slightly contracted; and posteriorly, percussion is flat from the angle of the scapula to the base of the thorax; over the same extent there is gurgling, pectoriloquy, and cavernous respiration. Anteriorly (below and to left of nipple) there is loud metallic tinkling, accompanied with amphoric respiration, and resonance of the voice, which also had a peculiar metallic vibration. Over the space

where the last mentioned signs were most distinct, the percussion was slightly tympanitic.

Throughout the upper part of the left lung, the vesicular murmur was feeble; under the clavicle the expiration was prolonged, with some crackling at this part. Whiffing respiration throughout right lung, excepting at its root, where there was bronchial respiration and bronchophony; percussion natural.

Sol. hydriod. ferri gtt. vj. three times a day; sulph. morphia, gr.  $\frac{1}{12}$  occasionally; soup diet.

The symptoms presented no important change up to June 1st. His breath now become very offensive; sputa yellow, diffuent, and more copious than at last report; emaciation increased. By accurate mensuration the right side exceeds the left by an inch and a half; other signs as before mentioned; same treatment continued.

*June 8th.* About this time, there was a decided aggravation of the symptoms; constant fever, copious perspiration, rapid respiration, and languid capillary circulation. Slight diarrhœa and anorexia also supervened, and tended to increase his prostration. Physical examination afforded unequivocal signs of the formation of a cavity in the posterior part of the lower lobe of right lung. In addition to the other signs below the left nipple, there was now distinct gurgling. The above symptoms, with some slight modifications, continued up to June 14th, when the patient and his friends were anxious that he should be removed home, and he was accordingly discharged.

The contracted condition of the left side, renders it more than probable that the early symptoms were owing to chronic pleurisy, induced by the repeated contusions of that side. This form of pleurisy, even in sound constitutions, not unfrequently ends in confirmed consumption; and such we believe to have been the case in the above instance.

The disease was evidently much more advanced in the lower than in the upper lobes, as sometimes happens in early life: that the excavations were not the result of pneumonia or gangrene, is sufficiently shown, both by the general symptoms and physical signs.

The metallic resonance of the voice and respiration, as presented under the left nipple, is very unusual in large cavities, even where their walls are formed by thick cartilaginous membranes. This peculiarity in the present case, was most probably caused by the anterior wall of the cavity being formed directly by the thickened pleura adhering to the parietes of the chest; the hardness and elasticity of which would fully explain the phenomena. A local or circumscribed pneumothorax, communicating with the bronchi, might give rise to similar signs; but the former explanation appears to me by far the most reasonable.

*CASE V.—Acute Pleurisy—obscure general symptoms.*—Christopher D—, ætat. 23, a labourer, entered the hospital June 3d, 1843. He stated that on the 14th of May he had cough and some headache, and that on the following day his indisposition was increased by a fall from a railroad car; he, however, continued his work up to June 28th, at which time he was obliged to keep his bed, and complained of slight pain in the right side, with difficulty of breathing.



On entering, his pulse was 75, and rather feeble; he had some cough, but no expectoration; respiration 16 per minute, but increased by the least exertion. At the root of right lung there was diffuse bronchial respiration, and obscure resonance of the voice; the vesicular murmur was very feeble throughout the lung, excepting at the summit, where it was perfectly natural; percussion dull from below the right clavicle, down to the margin of the ribs, and flat posteriorly from spine of scapula to base of lung. The motion of the right side was much more restricted than the left, and the natural vibration of the voice perceptibly diminished; intercostal spaces towards base of lung decidedly prominent. Cupped to right side; calomel and digitalis  $\bar{a}\bar{a}$  gr. j. combined with pulv. scillæ grs. ij. to be administered three times a day. Diet strictly farinaceous.

The following day, the patient was in all respects better, and the pain had been entirely removed by the application of cups. Notwithstanding the apparent enlargement of the right side, by accurate mensuration it was found to exceed the left by only half an inch. Nothing abnormal could be detected on the left side. In addition to the former treatment, the patient was to be occasionally purged by jalap and supertart. potassæ, grs. x. of the former with  $\bar{z}$ j. of the latter.

6th. He felt greatly relieved, and wished to sit up; there was no dyspnoea, and but little cough, nor was there any excitement of pulse. For the first time, distinct ægophony could now be heard at the angle of the scapula; the vesicular murmur for several inches below the clavicle and spine of scapula was much more distinct, and the prominence of the intercostal spaces had evidently diminished, but percussion remained the same. A blister was now applied to the right side. The calomel and digitalis to be continued. The patient continued gradually to improve up to the 10th of the month, by which time the general symptoms had entirely disappeared, but it was still observed, that upon slight exertion he had some return of dyspnoea. The physical signs had also undergone considerable modifications; the respiration was now distinct throughout the upper two-thirds of the lung, and over the same extent the sound on percussion was moderately sonorous; the bronchial respiration and ægophony could no longer be heard, but there still remained slight resonance of the voice at the root of the lung. At the base of the lung, the dulness on percussion, feeble respiration and slight prominence still continued; nor could the line of dulness be varied by changing the posture of the patient.

For the last two days, symptoms of commencing pytalism having presented, the calomel and digitalis were accordingly suspended; he was now directed an infusion of bac. juniper. and sup. tart. potassæ.

On 16th of June, he complained of soreness at the lower part of the chest and in the epigastric region, which was somewhat relieved by the application of dry cups. From this time his strength gradually improved under a more nutritious diet, and he left the hospital July 1st, considering himself perfectly well. The physical signs, however, continued the same as at last report, excepting that the resonance of the voice at the root of the lung had now entirely disappeared.

The only peculiarity presented in the above case, was the comparatively latent character of the disease. For two weeks after the commencement of the attack, he continued his work as usual, and was finally obliged to abandon it by the gradually increasing dyspnoea. At the time of his admis-

sion into the hospital, he had no fever, and but little cough or dyspnœa; and the pain of which he complained was rather a sense of oppression than of absolute suffering. The physical signs were, however, remarkably well defined, and clearly indicated a large accumulation of serum in the cavity of the pleura. Considering the extensive dulness on percussion and feebleness of respiration, it is somewhat remarkable that the enlargement of the right side was not more considerable: the distension was in a great measure confined to the intercostal spaces, and was most apparent during expiration; at the end of a full inspiration the right side exceeded the left by only half an inch, which is about the natural proportion between the two sides in right-handed individuals.

Under the treatment pursued in the above case, the effusion was rapidly removed; three days after admission it had sensibly diminished; and by the end of the week there remained but little serum in the pleural sac. The dulness on percussion, and feeble respiration at the base of the lung, continued when the patient left the hospital, and were most probably caused by an accumulation of lymph and false membrane.

**CASE VI.—Chronic latent Pleurisy.**—James H——, aged 35 years, a mechanic, was admitted June 22, 1843. For three months he has had pain in his back, which he attributes to lifting a heavy weight; he also states that his health has been uniformly good, and that he has never had hæmoptysis or any disease of the lungs; his mother and sister, however, died of consumption. On entering, he complained of debility, and was somewhat emaciated and pale, but had neither cough, fever, nor expectoration; when at rest he had no dyspnœa, but after exercise he was evidently short-breathed. The respiration at the summit of left lung was feeble; over the lower third the vesicular murmur could be detected with great difficulty, and the sound on percussion was flat. On the same side, below, and to the left of the nipple, there was a loud friction sound during both inspiration and expiration; and the same sound, though less marked, could be heard posteriorly towards the base of the lung. When questioned upon this subject, he stated that for several months he had felt more or less motion in the left side, particularly when actively engaged at his work. The left side of the thorax was slightly larger than the right; but as the patient was left-handed the slight difference might perhaps be fairly attributed to that cause. Nothing unusual was detected on the right side.

Dry cups were applied to the left side, and the following day he was directed to use a liniment composed of one part of croton oil to two of olive oil. Iodid. potass. grs. v. thrice daily were also prescribed; and his diet was to be moderately nutritious.

*June 30th.* Under the above treatment his strength had evidently improved, and he no longer complained of pain; the physical signs, however, had undergone no change since his entrance into the hospital. The following day, he was discharged at his own request.

The above case, though imperfect on account of the short time it was under treatment, presents several points of interest. Judging from the constitutional symptoms alone, it would have been impossible to have formed

a correct diagnosis; for, there was neither cough nor fever, and but slight dyspnœa, which might fairly have been attributed to general prostration; even the obscure dull pain was not referred to the chest, but to the lumbar region. The fact of the patient ascribing his indisposition to a violent strain, was also calculated to lead into error; and in short, nothing but his attenuated appearance and hereditary predisposition, could have induced the least suspicion of a pulmonary affection. The dulness on percussion, feebleness of respiration, and the friction sound at the lower part of the left lung, were sufficiently characteristic of chronic pleurisy; but in this form of the disease the physical signs are by no means so well marked as when there exists extensive effusion. It is well known that chronic pleurisy of the left side, is very generally connected with tubercles; which consideration, together with the slight emaciation and predisposition of the patient, renders the ultimate prognosis highly unfavourable in his case. The feebleness of respiration at the summit of the lung, was also calculated to excite suspicion; yet it must be confessed, that neither the general symptoms, nor the physical signs, can be considered as perfectly conclusive of the tubercular character of his disease.

*CASE VII.—Disease of the liver—Ascites—morbid appearances.*—Andrew T——, aged 30, of temperate habits, entered the hospital January 14th, 1843. About the middle of last August he had an attack of diarrhœa, which was soon relieved by the ordinary treatment; his health, however, was not fully restored; and, about two weeks after, he noticed a slight swelling of his abdomen, which has gradually increased up to the time of his admission. He was now evidently suffering with a large accumulation of serum in the cavity of the peritoneum. Notwithstanding that he was frequently purged by elaterium, and used for common drink an infusion of bac. juniper. with supertart. potassæ, the effusion continued to increase up to the middle of February, at which time the distension was such as to require the operation of paracentesis.

The patient did not come under my charge until the early part of March, when he presented the following condition:—Abdomen greatly distended; fluctuation distinct; but no visceral enlargement to be detected. Urine scanty, high coloured, and without trace of albumen; skin pale, and perfectly free from any yellow tint; constipation alternating with diarrhœa, but the fæces were of a natural colour. The scrotum, and lower extremities were œdematous, and covered with small petechial spots. He was emaciated and feeble, but complained of no pain, nor was there any symptom of pulmonary or cardiac disease.

As the patient was much oppressed by the abdominal distension—which on a former occasion had not yielded to purgatives, diuretics, or mercurials, it was not deemed expedient to recur to that plan of treatment; and he was accordingly tapped on the 15th of March, one month after the first operation. Upon this occasion, at least six gallons of greenish serum, slightly coagulable by heat, were drawn off, to the great relief of the patient. At the end of four or five days, however, the dulness on percussion at the lower part of the abdomen, clearly showed that the serum was again rapidly accumulating. With the view of exciting diuresis, and at the same time of



maintaining his strength, the following infusion was directed;—bac. juniper., sem. sinapæos, rad. zingiber, apii petroselini, aa ʒss.; suc. pomorum Oij.;—a wineglassful occasionally.

No benefit, however, resulted from this treatment, and it was quite evident that nothing but an occasional resort to paracentesis could prolong life; the operation was therefore repeated on the 17th of April, and followed by precisely the same results as on the former occasion. His strength was sustained by small portions of wine and soup—an exhausting diarrhœa to which he had been subject, was checked by morphia and anodyne enemata. Iodine ointment was freely applied to the abdomen, and moderate compression maintained by means of a roller; but these different efforts were followed by the same want of success in preventing the reaccumulation of fluid.

By the commencement of May, the emaciation had greatly increased, and he was now suffering with all the distressing symptoms attendant upon extensive abdominal dropsy; the operation was however postponed until the 13th, when, at his own request, it was again performed. For several days after, he appeared as usual; but his tongue gradually became brown and dry, singultus supervened, and, although he complained of no pain, there was evidently increased tenderness of the abdomen, which was also distended and tympanitic. He expired on the 17th, four days after the operation.

*Examination of the body*, on the following day. Liver about half its natural size, and remarkably heavy. Its anterior third, including the margin of both lobes and also the lobulus quartus, was of a grayish white colour, unusually thin, and of nearly the consistence of cartilage. When incised, it presented a perfectly smooth surface, intersected with white fibrous bands, but without any remains of the original structure of the liver. On its under surface, near its anterior margin, were a number of firm white elevations about the size of a small pea. The blood-vessels of the indurated portion were filled with a yellow cheesy matter. The rest of the liver was congested, and perhaps firmer than usual, but in other respects healthy—gall-bladder contracted and containing no bile.

The sigmoid flexure of the colon was greatly contracted, and its mucous membrane, as also the submucous cellular tissue, were thickened and indurated. Spleen large and firm. The sac of the peritoneum contained about two gallons of greenish serum, mixed with shreds of lymph; and there was a considerable quantity of soft albuminous matter between the convolutions of the small intestine—serous membrane covering the abdominal muscles, minutely injected, softened, and easily peeled off.

In the above case, the natural condition of the heart, and the absence of albumen in the urine, together with the fact that the effusion into the peritoneum preceded the œdema of the lower extremities, led to the belief that the dropsy depended upon hepatic disease, notwithstanding the absence of jaundice, and our inability to detect any enlargement of the liver. The diagnosis was fully confirmed by the contracted condition of the liver, and by the obstruction of its large vessels; but the cause of this degeneration is by no means so apparent: for, the patient was temperate in his habits, had never had jaundice or other symptom indicative of an affection of the liver, nor had he ever suffered with intermittent fever. It is, however, not improbable that the diseased condition of the colon may have developed,

through the portal circulation, a morbid action in the liver, as not unfrequently happens in case of chronic dysentery.

The condition of the liver resembled closely atrophy of that organ, as described by Andral, in his *Clinique Médicale*.

With regard to the inflammation of the peritoneum—it was evidently of recent date, and most probably occurred only a few days before death; so that no importance can be attached to it as a cause of the ascites.

**CASE VIII.—Disease of the kidneys—urea in the blood—morbid appearances.**—Mary F——, ætat. 22; admitted March 23d, 1843. Her health had been uniformly good up to the 1st of last January, when she had an attack of scarlet fever, and was confined to her bed for two weeks. A few days after the subsidence of the fever, she was sufficiently well to resume her domestic duties; but her face and feet became swollen, and she suffered with rheumatic pains to such a degree, that she was again obliged to take to her bed. From this time, until she entered the hospital, the prominent symptoms were irritability of stomach, painful micturition, constipation, and occasional epistaxis. According to the statement of her mother, from whom the above particulars were obtained, she had voided but a teaspoonful of turbid urine per day, for the last three weeks.

On entering, her pulse was 80, and feeble; tongue clean, but pale and tumid; teeth covered with sordes, and her breath very offensive. There was general œdema of the cellular tissue, but more particularly of the face and ankles; and the surface was remarkably pallid, and sensitive to the slightest touch. In the morning she had frequent vomiting, alternating with drowsiness, or even tendency to stupor; but these symptoms abated towards evening, and when roused, her intelligence was perfect. She had considerable thirst, but total loss of appetite.

On account of the prostration, wine whey and soup were directed; bowels to be opened by enemata; warm fomentations to abdomen. Calomel and digitalis  $\text{āā}$  gr. j. were also prescribed. The following day, a catheter was introduced, but the bladder contained no urine.

*March 26th.* Since last report, the secretion of urine has somewhat increased, amounting perhaps to  $\text{5j.}$  per day; a sufficient quantity, however, could not be obtained for analysis. In other respects the patient continued in nearly the same condition, and under the same treatment; but such was the irritability of stomach, that both medicine and nourishment were very generally rejected. The vomiting was somewhat controlled by the use of kreasote  $\text{gtt. ij.}$  every two hours; but the prostration and stupor gradually increased, and the following day I found her in a comatose condition, and with slight convulsive movements of the upper extremities. She expired the same evening.

The body was examined the following day: kidneys large and lobulated, and their investing membranes easily stripped off; weight of right kidney,  $\text{5vj.}$  and  $\text{5ij.}$ ; of left,  $\text{5vj.}$  The cortical substance, with its prolongations between the pyramids, was greatly thickened and granulated; the granulations were very numerous and small, and they generally retained the natural colour of the organ, though some of them were of a pearly-white, and others pink. In addition to the above appearances, the kidneys were congested and softened, and contained several ecchymosed spots; and their surface was mottled with yellow, brown, and purple patches. In both kidneys, the tubular portion appeared perfectly natural; bladder contracted, and devoid of

urine. Brain remarkably moist and pale; even the plexus choroides was bloodless. The lungs also were pallid, but in other respects healthy. The heart contained but a small quantity of thin watery blood; mitral valve slightly thickened, but not sufficient to interfere with its free action.

Liver easily lacerated, and presenting a white granulated appearance, evidently owing to contraction of its vascular structure. The mucous membrane of the stomach was somewhat thickened, and very pale; and the same blanched appearance extended to the other membranous organs. The peritoneum contained two quarts of yellow serum; about 5jss. of the same was found in the pericardium; and the cellular tissue throughout the body was more or less infiltrated.

A portion of blood from the ascending cava was subjected to minute analysis by my friend M. H. Boyè, and proved to contain urea in the proportion of gr. j. to the fluidounce; and it is to be regretted that the urine could not have been subjected to the same accurate examination during the life of the patient, since the result would have rendered the diagnosis more positive. The almost total suppression of urine; waxy paleness, and great sensibility of surface; general œdema; irritability of stomach; and the coma, in connection with the fact, that all these symptoms succeeded an attack of scarlet fever, left but little doubt that she was suffering with severe organic disease of the kidneys, and precluded all reasonable hopes as to her ultimate recovery. The presence of urea in the blood, sufficiently explains the comatose symptoms; and it is also apparent that the bloodless condition of the various organs must have increased the numerous functional disorders.

With regard to the anatomical appearances, the thickening of the mitral valve and of the mucous membrane of the stomach, may be considered as the commencement of those organic lesions which so commonly follow chronic disease of the kidneys; but the exact character of the renal affection is by no means so apparent. The injected, softened, and thickened condition of the cortical portion was evidently the result of inflammation; but it does not follow that the granular degeneration is to be attributed to the same cause, since simple nephritis seldom gives rise to such appearances.

*CASE IX.—Nephritis—Pericarditis—Persistence of foramen ovale.*  
John W—, ætat. 24, labourer; application was made for his admission June 29th, 1843. On visiting him at his residence, I found him extremely ill, and unable to give any satisfactory account of his case; the following particulars, however, were ascertained from his friends. Formerly intemperate, but for the last two years his habits had been perfectly regular; and he had enjoyed uninterrupted good health, with the exception of an occasional pain in the small of his back, which he attributed to an injury received several years since. About the middle of last May, after exposure to a cold, damp air, whilst in a state of profuse perspiration, he was suddenly seized with severe pain in all his joints, and the pain in his back was at the same time greatly increased. The attack was followed by high fever, uneasiness in the region of the heart, and œdema of the lower extremities.

When first seen by me, his pulse was 110, and very feeble; complexion



pallid, but no œdema of the face; tongue brown and dry; teeth covered with sordes. He had great thirst, with frequent vomiting, and total loss of appetite; bowels perfectly regular; urine but slightly turbid, and sufficiently copious. The lower extremities were enormously distended with serum; and he complained of considerable pain in his hips, back, and left shoulder. On account of his great prostration, it was evidently impossible for him to be removed to the hospital; I, however, continued my visits in consultation with Dr. J. Neill, who now very kindly took charge of the case.

Under the use of beef-tea and carb. ammoniæ, grs. v. every three hours, his strength was somewhat restored by the following day. The pulse was less frequent and more developed, and there was less irritability of stomach than at the first visit. With the exception of slight roughness of the first sound, there were no indications of cardiac disease; and the vesicular murmur throughout the anterior part of the thorax was perfectly natural. The urine was copious, but slightly turbid, and without ammoniacal odour; when subjected to heat it became milky, but its consistency was not changed, nor were any flakes precipitated.

In addition to the former treatment, gr.  $\frac{1}{8}$  of morphia was occasionally administered, with the view of relieving pain and procuring sleep; but it was soon evident that all treatment was useless, and that the apparent improvement of the previous day was delusive. His prostration rapidly increased; the pulse became slow and irregular; singultus and low delirium supervened; and the patient expired July 2d.

The body was examined forty-eight hours after death.

Both kidneys were lobulated and greatly enlarged, having nearly twice their natural dimensions; externally they were of a brown colour, and dotted with purple spots. The cortical portion was slate-coloured, and interspersed with yellow patches, greatly softened, easily lacerated, and evidently infiltrated with pus; at several points the pus was collected into a distinct abscess; the natural striated appearance of the cortical portion was not obscured by any development of its granular structure. The tubular portion was highly vascular, and the papillæ greatly enlarged. Pelvis in both kidneys discoloured, softened, and minutely injected; bladder contracted, and containing but little urine.

The different cavities of the heart contained firm fibrinous concretions, strongly adherent to the endocardium, and projecting into the pulmonary artery and aorta. The edge of the mitral valve was slightly thickened, minutely injected, and at several points covered with small soft vegetations; slight traces of inflammation were also found upon the margin of the aortic and tricuspid valves. The fossa ovalis at its upper part was not closed; admitting with ease the index finger. Heart soft and pale; pericardium natural. The mucous membrane of the stomach was thickened and indurated. Liver large and fatty.

The severe pains which the patient suffered about the middle of May, were evidently of a rheumatic character; and the inflammation of the kidneys and endocardium may be fairly attributed to the same cause. The fact that chronic nephritis is occasionally latent, and not unfrequently complicated with rheumatism, disease of the heart, and other organic lesions, might lead to a different view of the case, and induce the opinion that the affection of the kidneys should be referred to the injury which the patient had received several years before. If, however, we recur to the previous his-

tory, it will be perceived that the patient's health continued unimpaired after the receipt of the injury; and it is by no means probable, that such would have been the case, had there existed any serious disease of such important emunctories as the kidneys. The anatomical appearances also go to prove that the endocarditis and nephritis were of comparatively recent date.

The copious flow of urine, and the absence of comatose symptoms, render it highly probable that the blood was not poisoned by the presence of urea; and the want of deposit in the urine under the action of heat, tends, in some degree, to show that it was not albuminous to any considerable extent; it is, however, to be regretted that both the blood and urine were not subjected to chemical analysis.

The communication between the auricles in the above case, was evidently congenital, since there were no traces of inflammation or ulceration about the foramen; and yet, notwithstanding the laborious occupation of the patient, no symptoms of cyanosis had ever occurred. This corresponds with numerous other cases on record; and it is now generally believed, that no injurious admixture of venous and arterial blood results from a permanence of the foramen ovale, excepting in those cases which are complicated with some permanent obstruction to the circulation, or a want of proportion between the cavities of the heart. Much importance, however, has been attached to the general persistence of the foramen for several months after birth, as explanatory of some peculiarities in the diseases of early infancy. The subject is one of considerable interest, and well worthy of minute investigation.

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ART. IV.—*Aneurism of the Femoral Artery from fracture of the Femur at its superior part—Ligature of the external Iliac Artery—Recovery.*  
By DANIEL BRAINARD, M. D., Professor of Anatomy in the Medical Department of the St. Louis University.

MARCH 1st, 1842, I was called to visit Dexter Graves, a highly respectable citizen of Chicago, Illinois, labouring under an ununited fracture of the femur. He gave the following history of the case:—Twelve weeks previously, in the early part of December 1841, while stepping from a carriage, he fell, in such a manner as to strike the upper part of the right thigh, at the inside, across the wheel. He was unable to rise, and a physician being called diagnosticated a "fracture of the bone." Provisional dressings were applied and the patient conveyed a distance of forty-five miles, to his own house in Chicago. Another apparatus was then applied by which extension and counter extension were kept up, and the limb kept in a straight position;

this treatment was continued twelve weeks, when the machine was removed and the fracture found to be ununited. At this time I saw him.

The following were the appearances observed:—The right limb was two inches shorter than the left, was everted, and considerable swelling about the hip and thigh. The foot could easily be brought down to a level with the other, but was immediately retracted on removing the extension. No crepitation could be perceived in any movement of the member. The shaft of the bone to near the trochanters could be felt, free from callus or fracture. The diagnosis was a fracture of the neck of the bone, but whether within or without the capsule there was no means of ascertaining with certainty. The general health of the patient had suffered much in consequence of his long confinement. He was pale, emaciated, affected with diarrhœa, loss of appetite, and profuse sweats. He had cough, expectoration streaked with blood—an examination of the chest revealed an extensive bronchial affection, but no signs of tubercularization.

Under these circumstances it was thought advisable to adopt some plan which would allow him to rise and take exercise, the restoration of his health being the most urgent indication. This was a thing of some difficulty, as the slightest movement was attended with excruciating pain. The immovable apparatus (starch bandage) was chosen and applied from the knee upward. Over a dry roller were placed several pieces of firm pasteboard, which externally and posteriorly extended as high as the crest of the ilium. These were covered with a roller immersed in paste of flour, several turns of which were passed around the pelvis. As soon as this was dried the patient was able to rise and walk on crutches, and in a short time was able to ride several miles. No change took place in the state of the limb except that at times it was painful and affected with spasmodic action of the muscles, when it was fully three inches shorter than its fellow. It may be remarked that the patient had felt pains in this limb of a rheumatic character previously to the fracture, they were however but slight and occasional. He remained in the same condition six months, wearing the starch bandage, which he could not do without, and with it I left him Oct. 20, 1842, to be absent at St. Louis during the winter. On my return, Feb. 17, 1843, (which was hastened by urgent applications on the part of the patient,) I found the upper part of the thigh occupied by a large tumour, the most projecting point of which was three inches below and a little anterior to the trochanter major. It was smooth, elastic, fluctuating, distinctly pulsating, giving the "*bruit de souffle*" on the application of the ear, subsiding in a marked degree on compression of the femoral artery, and becoming tense on removal of the pressure. Its inner margin was limited by the gracilis muscle, its outer at the most external part of the thigh; it extended upward to Poupart's ligament, and downward from that point twelve inches: the circumference of the thigh, embracing the largest part of the tumour, was twenty-five inches. It had been first perceived about twelve weeks previously, and rendered it necessary to



remove the paste bandage and had increased regularly until it acquired its present size. If the characters I have described could leave any doubt of the aneurismal nature of this disease this had been entirely removed by the exploration of the physicians in attendance, who, supposing it to be an abscess, had made a puncture through which a pint and a half of arterial blood had escaped before they could succeed in closing it. Compression of the femoral artery by means of a steel spring and graduated compress was then resorted to, but with no other sensible effect than the production of œdema of the limb from the obstruction of the venous and lymphatic circulation. The situation of the tumour, on the anterior and external side of the thigh, renders it probable that the anterior circumflex branch of the profound femoral artery was the one originally affected, but the course of the superficial femoral could not be traced, at the period when I first examined it, along the inside of the tumour.

Having observed the progress of the tumour for several days, in spite of the efforts made to check it, I determined on the ligature of the external iliac artery, and, the patient being in every respect in a favourable state, it was performed Feb. 24, 1843, in presence of several of the profession, and with the assistance of Drs. Sawyer and Davisson of this place, in the following manner:—

The patient remaining upon his ordinary bed, with his head and shoulders slightly raised, an incision was made three inches in length, commencing an inch within the anterior superior spine of the ilium, and directed, parallel to Poupart's ligament, toward the pubis. The skin, subcutaneous tissue, and superficial fascia were thus divided, and the aponeurosis of the external oblique muscle exposed. The *arteria ad cutem* required a ligature. The aponeurosis was next divided upon a director, the internal oblique and transversalis muscles with the spermatic cord were pressed upward with the fingers, the handle of the scalpel was employed to rupture the fascia transversalis, and the peritoneum was then gently raised with the fingers until the forefinger of the left hand rested upon the artery about two inches above the femoral arch. The slight investment of the artery was penetrated by the nail, and the needle known as Dr. Physick's, armed with a small silken ligature, passed under it. This was effected without difficulty, the point of the needle being carried between the artery and vein and pressed forward by gentle movements to and fro until it emerged on the outside of the artery. The point was then detached from the shaft and drawn out without embracing more than the artery itself, and without having raised or separated it from its surrounding tissues. The ligature was firmly tied in a double knot, one of its ends removed, the wound carefully sponged and its edges brought together by strips of adhesive plaster. Having had occasion during the winter, and previously to this operation, to put in practice, upon the dead subject, the different methods of placing a ligature upon this artery, I adopted the above mode of proceeding, as affording easy access to the vessel, with

the least possible liability to wound the epigastric artery or the peritoneum, or to allow a protrusion of the viscera. Its application in this case fully justified the choice, and in no respect could I wish to have modified it.

During the operation the patient suffered very great pain, was pale, cold and depressed, and was allowed two glasses of wine. When it was finished the pain still continued, passing with rapidity from the wound to the limb or to the abdomen, and was so severe as to make the patient cry out and toss himself about in the utmost agony. It was relieved by the sulph. morph. gr.  $\frac{1}{4}$ , repeated three times. The immediate effects of arresting the circulation in the artery were not perceptible in the general system, unless the pain and agitation could be attributed to it—the pulse sixty and feeble. The tumour immediately became flaccid, its circumference being one inch less than before. Three hours after the operation there was a sensation of numbness in the member and it was colder than the other; the sensibility gradually returned, and at the end of six hours was perfect; a state of exalted sensibility followed and was so great that the contact of a piece of flannel could not be endured. The natural temperature returned with the sensibility, commencing first above and extending to the foot, but there was not observed at any time an unnatural elevation of the temperature, or that activity of the capillary circulation which has been noticed in many cases.

During the first five days after the operation no material change occurred either in the member or in the system. The temperature and the sensibility of the former were natural. The pulse was 75, no febrile reaction, the patient urinated without difficulty, and on the fourth day had a stool from a lavement. His sleep was quiet and his appetite good. On the fifth day there was a slight discharge of pus from the wound. From the fifth to the fifteenth day he remained in the same state, being free from pain and all the functions regularly performed. From the 15th to the 23d day there were occasional pains and cramps in the affected limb, which were relieved by frictions and hot applications, and a troublesome cough, for which anodynes were prescribed. On the 23d day the ligature came away. The incision, however, continued to discharge pus for several days afterwards, and was not perfectly healed before the 45th day from the operation.

The tumour after the tenth day did not diminish in size, but remained stationary; frictions and the roller were applied, which latter could only be used at first with moderate force; by degrees the pressure was increased and the tumour gradually subsided. A covering fitted to its surface and laced on the outside, attached to a band about the pelvis, and the sides of which were rendered stiff by the introduction of pieces of thin pasteboard, was at length substituted for the roller, and was found more effectual in hastening the disappearance of the tumefaction. At present, on the 1st of June, this had entirely been effected, there remained only an inclination in its place, which extends over the whole anterior and superior femoral region, and confining the fragments and limiting their movements in such a manner, as to give the

patient great command over the member. It can be moved freely in every direction, and is capable of sustaining a great part of the weight of the body, the patient being able to move about freely and attend to his business. Whether a bony union may still be expected, must depend in a great measure upon the seat of the fracture; if this is within the capsule it is not to be anticipated; if without, it may take place. That this latter is the case there are strong reasons for supposing; not, however, enabling us to adopt the opinion without reserve.

*Remarks.*—The appearance of aneurism as a consequence of fracture of the femur has not been often observed, and its occurrence is calculated therefore to direct the attention to the time and manner of its production. In the present case there are three several ways in which this may be explained. By supposing the artery to have been injured by the violence which occasioned the fracture. Neither the manner of the fall nor the position of the limb after it, would justify us in adopting this explanation in the present instance. By the alternate elongation and contraction of the member; this, carried to the extent of three inches, and repeated frequently during a period of several months, might be supposed capable of impairing the integrity of the coats of the artery, but only after the lapse of a certain period of time, whereas in this case we have indications of its earlier existence. These indications were the unusual tenderness, the persisting tumefaction, the absence of bony union, although the value of this latter circumstance was diminished by the unsuitable apparatus employed, the improper manner of its application, and the doubt as to the precise point of the fracture. Still the position of the tumour, rendering it almost certain that its origin was from the profunda or its branches, coupled with the former considerations, will justify us in attributing it to the transportation of the patient, immediately after the fracture, so great a distance.

The laceration of the tissues, necessarily produced by the movements of a carriage, over a very rough road, a distance of 45 miles, must be very great, about the fractured ends, and to this we may with great probability ascribe the production of the aneurism in this instance; and from it we may derive a practical precept of caution in advising or permitting such a transportation in every similar case.

CHICAGO, Ill., *June 15, 1843.*



ART. V.—*Case of Rupture of the Uterus, in a woman who had twice undergone the Cæsarian operation.* By WM. BOWEN, M. D., of Massillon, Ohio.

FEW of the many histories of unfortunate childbearing are more painfully interesting to the medical reader, than the following; and certainly none, with which we are familiar, presents features in obstetrical surgery more extraordinary. Whether it be viewed in reference to the great constitutional stamina of the unfortunate patient, which enabled her to survive two successive operations, of the severity and danger of the Cæsarian section, or in regard to the circumstances which seemed to the practitioner who had charge of her case, to warrant a resort to such a hazardous procedure; the story of Mrs. S.'s lying-in-room adventures is one of such remarkable incident, and of such good and bad fortune, as to entitle it to a place among those told of others, on whom the primitive curse, "*In sorrow shalt thou bring forth children*" has been most heavily visited.

Mrs. S., after having had four unfortunate labours, two of which (the third and fourth) were terminated by the abdominal section, (her accoucheur, Dr. R. Estep, supposing she had deformed pelvis, which would render delivery of a living child at full time impossible,) had the good fortune in her fifth confinement, to give birth to healthy and vigorous twins, at full time and of large size; but falling in labour the sixth time, she suffered laceration of the uterus, and survived but a few hours.

For the details of this last labour, I am indebted to my friend C. H. Preston, M. D., an intelligent practitioner of this county; for the history of the preceding one, I am under obligations to Dr. Robertson, a skilful and popular physician of the adjoining county (Columbiana), while a circumstantial account of the third and fourth labours, in which the abdominal section was deemed necessary, and performed by Dr. R. Estep, has been published by the operator in the July No. of the "*Western Journal of the Medical and Physical Sciences*" for 1836. As it may be fairly inferred that the disastrous termination of the last labour of Mrs. S. was owing mainly to the weakened condition of the uterus at the place where it had been twice incised; and as the circumstances under which such bold and dangerous surgery had been previously practised, are given with some minuteness in the published report; the interest and value of the case which it is more especially our object to communicate at this time, will be enhanced by presenting to the readers of this journal such portions of that report, as seemed to the reporter to embody the best reasons for his practice. And whether these extracts be received as detailing a practice sanctioned by good sense and standard authorities, as conscientious surgery calculated to subserve the best interests of the patient, and worthy of imitation; or as a measure which in wanton violation of the plainest rules of obstetrical management, unnecessarily jeopardized the life

of the woman; they must still be regarded as parts of a document of no ordinary value.

In 1830, Dr. Estep informs us, he was called to attend Mrs. S., aged about 20 years, in her first labour: delivery was accomplished by the forceps; suspecting deformity of the pelvis, he made an examination, and "*found the antero-posterior diameter contracted to such a degree, as to preclude the possibility of her ever giving birth to a living child, approaching the ordinary size.*"

In 1832, he attended this woman again, and succeeded, with some difficulty, in delivering with the forceps of a "very small dead fœtus;" a more careful examination of the pelvis was now made, and it was found that the *sacro-pubic diameter at the superior strait, was reduced below two inches.*

In 1833, Dr. E. says, he was called a third time to attend Mrs. S., in labour; she informed him that she had been in labour several hours, and that during the third or fourth pain, she distinctly felt something "give way." From this account, Dr. E. suspected rupture of the uterus; he immediately introduced his hand, and "thought" he discovered a rent in the anterior wall of that organ, near its middle. Turning the child, with a view of delivering by the feet, was determined upon, (the presentation was one of the vertex.) The feet were brought down and the trunk delivered; but no efforts were sufficient to induce the head to pass; "*after three hours indefatigable exertion, (he says,) I was unable to get the head engaged in the superior strait. Relinquishing all hope of success by this artifice, and being thoroughly assured of the child's death, I now separated the head from the trunk, in the vague hope of being able to get a better diameter of the head, or by locking the finger into the chin, to be able to apply a more efficient force, but in this I was likewise unsuccessful.*" After fruitless endeavours to extract the head with a perforator, Dr. E. proposed and performed the section of the abdomen; he found a slight rent in the uterus, which he enlarged to the extent of five or six inches, and extracted the head through it; the placenta was delivered by the natural passages; the wound in the abdomen was closed in the usual manner, and the woman recovered in a short time.

In 1835 Mrs. S. was again in labour, and Dr. E. was called in consultation with Dr. Tolerton. This call, Dr. E. says, he was prepared for, by having "every instrument and agent which could possibly be called for in requisition, carefully packed up where I could lay my hands on them at any moment." On reaching the residence of the patient, and examining per vaginam, he found "an arm presentation and a dead child;" the evidences of the child's death are not given. The Cæsarian operation was again resorted to, without attempting delivery by any other method. This operation was as successful as the other; a dead child was extracted through the opening, and the woman soon recovered.

In 1838, Dr. Robertson was called to see Mrs. S., who was again in

labour: on reaching the house, he says, "I found she had given birth to healthy and vigorous twins; their large size, and the globular form of their heads left me no room to doubt the mother's having a tolerably ample pelvis: I removed the placenta, and satisfied myself that the pelvis *was not* as faulty as had been charged; making a pelvimeter of my hand, which I introduced for that purpose, I placed the ulnar edge of it upon the sacral projection, while its radial aspect scarcely touched the ossa pubis, thus giving the sacro-pubic diameter a space of about three and a half inches.

In 1841, my friend Dr. Preston, wrote me as follows: "Last week I was called to see Mrs. S., in consultation with Drs. Robertson and Carey; I learned that the labour had begun about eighteen hours previously; that a midwife had been called in, who found a vertex presentation, and gave promise that labour would soon terminate. The uterus had been acting with great energy, when suddenly the woman exclaimed, "something has given way;" considerable hemorrhage ensued, with vomiting and syncope; the uterine contractions ceased: in this condition Drs. Robertson and Carey found her, and matters had not improved any when I arrived. Examining per vaginam, coagula of blood were found, but the child's head was not within reach of the finger. These evidences, with those furnished by an external examination of the abdomen, made it plain, that the uterus had ruptured, and that the child had escaped wholly or in part into the abdominal cavity. I proposed attempting delivery by introducing the hand and searching for the feet, with a view of bringing the child back through the rent in the uterus and delivering it footling through the natural passages; but my colleagues, without doubting in the least the practicability of this method, were disposed to regard the woman as moribund, and to prefer that mode of delivery which would least endanger the life of the child, if perchance, it still survived; they therefore insisted on resorting to the abdominal section. Observing that a division of the abdominal integuments through the old cicatrix, would be unattended with pain or hemorrhage, owing to its imperfect union and organization, I acquiesced in the propriety of the measure, and I am certain that no mode of delivery would have saved the woman. Dr. Robertson performed the operation. We found the child dead, and almost entirely in the abdominal cavity—the uterus having given way through the whole extent of the former cuttings. After the child and secundines were delivered, the woman seemed to revive; but her last labour had come. She survived about 36 hours." Before leaving the patient Dr. Carey took special pains to ascertain the true dimensions of Mrs. S.'s pelvis—he avers that the transverse and conjugate diameters are of good size, but that the depth of it posteriorly is less than usual.

It will be perceived that the parties who paid obstetrical attentions to Mrs. S., have joined issue in regard to the size of her pelvis; Dr. E. assures us that the contraction was such as "*to preclude the possibility of her ever giving birth to a living child approaching the ordinary size:*" "*that the*



*sacro-pubic diameter was below two inches,"* and of course it was upon this view of the condition of the pelvis that the propriety of the turning and decapitation of the child and the subsequent section of the abdomen, to deliver the trunkless head, in the third labour, and the immediate resort to the Cæsarian operation upon finding "*An arm presentation and a dead child*" in the fourth confinement, are predicated. Drs. Robertson and Carey declare the pelvis to be of tolerably "good size," that the sacro-pubic diameter, at the superior strait, measures at least three and a half inches. Without attempting to determine the truth of the matter at issue, by the number and credibility of the witnesses on each side, we think the circumstance of the birth of the twins, and the facility with which Dr. E. turned and delivered the trunk and extremities of the child he beheaded, establishes the truth of Drs. Robertson and Carey's declaration in regard to the matter, as clearly as if the pelvimeter of Coutouly or the calipers of Baudelocque had been applied, and had testified to a reasonable amplitude of pelvis.

Admitting Dr. E., however, to be correct in his estimate of the size of this woman's pelvis, was it not a strange practice which sought to *pull* a child, footling, through a pelvis contracted in its sacro-pubic diameter at the superior strait to "*below two inches?*" He is an industrious accoucheur who devotes his muscles to "three hours indefatigable exertion" to bring the large diameter of a fœtal head (occipito-mental, five inches) through an opening of less than two; and to have failed to accomplish so extraordinary a feat, is no proof of the want of respectable *physical* qualifications. Separating the head from the trunk, "*in the vague hope of being able to get a better diameter of it, or by locking the finger into the chin, to apply a more efficient force,*" was a device possessing strong claims to originality, but one which has not yet found favour in the eyes of our best obstetrical authorities. Dr. Dewees (page 580, System of Midwifery,) says, "*For what reprehension, indeed I had almost said punishment would be sufficiently severe for that practitioner who, after having destroyed the child should find it impossible to deliver it; and then for its accomplishment subject the poor woman to the Cæsarian section?*" If it is difficult to recognize the necessity for so perilous an operation as the Cæsarian, in the third labour of Mrs. S., it is by no means an easy matter to discover good reasons for resorting to it again in her fourth confinement. It would, however, be paying a poor tribute to the discernment of the reader to suppose him blind to the fact, that in conducting the third and fourth labours of Mrs. S., rules were set at naught, which have been held sacred to common sense by every writer on midwifery.

MASSILLON, O., April 12, 1843.

ART. VI.—*Aneurism of the Aorta—communication between the Trachea and Œsophagus.* By JOHN NEILL, M. D.

THE subject of this case was a gentleman 59 years of age, who had been known to labour under aneurism of the curve of the aorta since Jan. 1836, at which time he had an attack of acute disease, the symptoms and circumstances connected with which will be subsequently detailed.

July 18, 1843. *Autopsy*, 31 hours after death.—*General appearances.* Slight frame, stature below medium height, not much emaciation—chest rather narrow—upon percussion, dulness over the præcordial region, which extended beyond the right side of the sternum and as low as the sixth rib. Upon raising the sternum and cartilages of the ribs, a large *tumour* was found adhering to an erosion, involving three-fourths of the width of the sternum at the junction of the first and second bones, and also, the extremity of the third rib of the right side. Its shape was somewhat like that of a heart, with its apex downwards. The diameter of its base was seven inches, and the altitude nine inches. Occupying the upper part of the thorax it pushed the heart entirely below the sixth rib, and its posterior portion pressed upon the trachea just above its bifurcation. On being cut into, it proved to be an enormous aneurismal sac, including the whole of the curve of the aorta, commencing just beyond the semilunar valves. The sac consisted of three lobular portions, all entering into the common large cavity. The right superior lobe was that first observed imbedded into the eroded sternum and right third rib. The outer circumference of this was as large as that of a common sized orange. The part in contact with the sternum and rib was filled with a solid coagulum, which was laid bare by the coat of the sac being removed with the bones of the chest, to which they adhered like periosteum. The inferior lobe occupied the ordinary position of the heart, and was sufficiently large to admit the doubled fist of a man. It was partly occupied by a clotty, grumous, dark-brown fluid.

The left superior lobe was situated a little lower than the right; was very capacious: contained much fluid blood, and a coagulum at its posterior portion resting nearly opposite the bifurcation of the trachea.

There was no apparent rupture of the coats of this enormous common sac, formed by the dilated artery, which was sufficiently large to hold at least a quart. There was no particular dilatation of the innominate, subclavian, or carotid. The interior coat of the thoracic aorta below the sac was covered with scaly ossifications upon which the knife grated. The semilunar valves of the aorta were slightly thickened.

*Aperture making a communication between œsophagus and trachea.*—The pressure of the sac upon the windpipe had caused a partial absorption of three of its cartilaginous rings, the extremities of which presented calcareous deposits. Where the trachea was thus pressed backward upon the œsophagus

an aperture existed between the two natural passages one inch above the bronchi, sufficiently large to admit a common-sized goose-quill. A small hard septum separated this aperture from a little sinus which remained imperforate. The trachea exhibited marks of extensive inflammation in the parts which had been subjected to pressure, which diseased appearance continued downwards into the bronchial tubes. The interior of the œsophagus opposite the tumour and adjacent to the aperture was red, and its mucous membrane softened.

*The heart*.—Considerable difficulty was experienced in removing the pericardium, which was strongly adherent, the result of old inflammation. The heart was rather smaller than usual and its walls of proper thickness. The right auricle contained a dense fibrinous clot, about the size of a small hen's egg, not of recent formation. This clot rested upon the tricuspid valve, which it partially closed. This valve, together with the mitral, were thickened and contained fatty depositions. The cavity of the left ventricle was small.

*Lungs*.—The summits of both lungs were attached to the walls of the thorax by old adhesions, particularly that of the right side. At base neither were crepitant; but both were so solid as to resemble recent hepatization. The pleura pulmonalis of the left upper lobe presented patches indicative of former inflammation.

Immediately upon opening the cavity of the thorax I perceived the smell of assafœtida; a mixture containing a small portion of which had been given at intervals for two or three days previous to death.

The perforation in the gullet explains the manner in which this article had entered the lungs, from which it must have transfused itself through the tissues into the pleural cavities. A peculiar whiteness of the sputa whilst taking the mixture, consisting of lactis assafœtid., lactis ammon., &c. was also occasioned by the entrance of these into the windpipe.

For several days previous to death, all attempts to swallow fluids even in the smallest quantities were instantly followed by a violent cough and a strangling sensation.

The following note was made by the attending physician, Dr. G. Emerson, during the early stages of the disease, which proved fatal after the lapse of nearly seven years, under the circumstance disclosed by the post-mortem examination.

"J. G., merchant, aged about 53 years, of small stature, rather delicate form and sanguineous temperament, accustomed to an active, though not laborious life, first came to me for advice in July 1835, when he complained of pain in the left breast, and troublesome dry cough. Blood-letting, with other antiphlogistic treatment, was followed by relief. About the first of the following December he again called for my advice, complaining of pain in the region of the heart, with a quick hard pulse, and troublesome cough. Bleeding, rigid dieting, digitalis and pectorals, were followed by a



gradual abatement of the symptoms. Early in the month of January 1836, Mr. G. felt able to go from Philadelphia to New York on business. He remained at the latter place about a week, during most of which time the weather was very wet and inclement. The last day or two he was very much exposed. On his return to Philadelphia, he sent for me on the 15th of January, complaining of severe pain in the pharynx and upper parts of the œsophagus, with great difficulty in swallowing. His pulse was active and his cough very harassing, resisting all attempts to relieve it by means of the ordinary anodynes and pectorals. Bleeding from the arm, followed by leeches to the throat and upper part of the chest, with other antiphlogistic measures, were, in a few days, followed by an abatement of the pharyngitis. But this was immediately succeeded by an attack of intense pain in the region of the heart, with deep, dry, racking cough, which, as on the former occasion, nothing seemed to check. The little mucous forced up in coughing was sometimes streaked with blood. He complained of severe pain in the left side of the head, face and cranium. The bleeding and other antiphlogistic measures were persevered in and a blister applied over the left side of the chest. After four or five days, the violence of these symptoms abated, but the pain now shifted to the right side of the sternum, where in four or five days more a prominence was visible having a strong pulsation. This prominence was at the junction of the third right rib with the sternum, and had its pain increased by external pressure. The pulse was from 96 to 100 per minute, not irregular or intermittent, and without any thing like a thrill. The cough was unattended with expectoration, and was relieved by lying on the back a little inclined to the right side. Treatment, antiphlogistic, with infusion of digitalis. On the 4th of February the cough was only occasionally troublesome at night, the pulse about 96 per minute and less forcible. The pain in the pulsating tumour was relieved by leeches applied immediately over the part.

The patient was apprised of the nature of his disease, and advised to avoid any bodily exertion, remain as quiet as possible, and submit to every measure calculated to diminish the volume of blood and curb the force of its circulation. To this course he submitted with great patience and perseverance for several months, when he again began to walk out and attend to his affairs. From this period till his death, he had occasional attacks of pain in the region of the aneurism, attended with violent cough and other symptoms of aortitis. These symptoms, though sometimes very obstinate, always yielded to repeated bleedings and leechings, with repose and rigid dieting.

Exploration of the chest showed a dulness on percussion and loss of respiratory sound in the region of the chest extending from the right side of sternum about the union of the third and fourth ribs, to the region of the heart, with violent pulsation through every part of the chest, indicating the existence of a very large aneurismal sac. The prominence at first observed,

the beating of which was visible to the eye, had abated during the first months of treatment, and gave rise, with some, to the supposition that the aneurism had undergone a spontaneous cure. It was, however, but too evident that the dilatation was only arrested in its progress in one direction, whilst it proceeded slowly in others where it met with less resistance.

About the month of March last (1843), the cough which had long been very troublesome, became still more violent, and there was some complaint of a difficulty of swallowing. At night, on first going to bed the cough was always exceedingly violent and harassing. A position on the left side with the face inclining a little downwards, seemed to afford most relief. Little apparent advantage was derived from anodynes and antispasmodics. These symptoms increased, and in the months of May and June required very active antiphlogistic means to relieve them. On the 5th of July he laboured under a severe catarrhal affection with great discharge from the schneiderian membrane and subsequent free expectoration of mucus, with pains in the head and chest, all of which were evidently the result of an attack of the influenza, then very prevalent. But by far the most serious symptoms were a sense of choaking, and difficulty of swallowing fluids even in very small quantities without immediately inducing a violent convulsive cough. The breathing was at the same time attended with a wheezing sound indicative of obstruction in the trachea. The feet and ankles were somewhat tumid. But the pulse, though from 90 to 100 per minute, was regular, and never then or at any previous time, attended with that peculiar thrill which is so often associated with aneurism. About three days previous to death, a white emulsion had been given in small quantities, containing some milk of gum ammonia and milk of assafœtida. The expectoration brought up by coughing was, during this time, observed to have a peculiar milky whiteness. The flow of urine also became so scanty as to excite much anxiety on the part of the patient. Both the whiteness of the expectoration and the reduction of the urinary secretion, were evidently owing to the passage of the mixture and other fluids into the lungs instead of the stomach. On the night of the 16th and 17th of July, there was a continuation of great oppression in breathing, with a most harassing cough, somewhat relieved by lying upon the left side with the face inclined downward. On the morning of the 17th, after walking about the chamber and putting on some of his clothes, his breathing became suddenly very much oppressed, he reclined backwards upon a sofa, became convulsed and died in a very few minutes."

ART. VII.—*Speedy death from a large dose of Sulphate of Morphia.*

By M. H. HOUSTON, M. D., of Wheeling, Va.

THE following melancholy case, showing the time and manner in which morphia is capable of producing death, may not prove uninteresting to the readers of the American Journal. The subject of it was Mr. Sprigg, aged 59 years, a lawyer by profession, but for the last four years actively engaged in agricultural pursuits. He was somewhat corpulent, rather disposed to plethora—of temperate habits, and possessed of unusual intellectual energy. A week or ten days before death, whilst superintending his harvest in the country, he was attacked with symptoms of mild intermittent fever of the double quotidian type, for which he took some appropriate remedies, under the direction of his son-in-law, Dr. C., who resided on his farm. The fever not yielding as readily as was anticipated, I was requested early on Monday morning, the 31st of July, to visit him in consultation. He was then labouring under a paroxysm of fever, attended by violent neuralgic pains extending down the back and lower extremities, but especially severe along the course of the facial nerve on the left side. He also had an incessant, dry, hard, spasmodic cough, which could not be controlled, and which he feared might produce rupture of a blood-vessel. The paroxysm had commenced about one or two o'clock in the morning. I advised a more liberal use of quinine during the intermissions, and a quarter of a grain of morphia, with one grain of ipecac. a little before or at the very commencement of the paroxysm. Under this course, he escaped the evening paroxysm, but had a slight one at two or three o'clock on Tuesday morning. On Tuesday evening he expressed himself as feeling quite well. On Wednesday morning at four o'clock, I was summoned to visit him in great haste, but for what purpose I was not informed. On reaching his farm, four miles from the city, I found that he had been dead nearly an hour. From Dr. C. I received the following statement. Mr. S. had gone to bed, feeling as well as usual, but his daughter and Dr. C. being solicitous to prevent with certainty, another accession of fever, determined to sit up for the purpose of giving his medicine at regular intervals. This they continued to do, contrary to the wishes of Mr. S. until one clock, at which time he insisted on their going to bed, and on their still refusing, he got up, put on his clothes and went up stairs to the chamber of his wife. Dr. C. took from a glass jar a box of ipecac., one of tart. antim. and a paper containing 10 grains sulph. morphia, just from the apothecary, and followed him up stairs, for the purpose of preparing the anodyne powder. After preparing the powder he instructed Mrs. S. to administer it, if it should become necessary, and retired, leaving the paper of morphia on the table where he had been using it. After Mrs. S. had been some time in bed (the exact period not known) Mr. S. having a slight cough, requested her to get up and give him the



powder. This, she at first declined doing, believing that he did not require it, but when he insisted on having it, she got up, lit a candle, and being ignorant of the presence of more than one powder, she mixed and gave the first that presented, which proved to be the 10 grains of morphia. Without extinguishing the light, she lay down by the side of Mr. S., and to the best of her knowledge, had not lain more than ten minutes when her attention was attracted by a loud, protracted and unnatural snore. She shook Mr. S. and called him by name, but receiving no answer, she at once procured the light and found that he had ceased breathing, and that his skin communicated a very unnatural sensation of clamminess. She gave the alarm, and in a few moments, the mistake with all its horrid consequences became manifest. Dr. C. resorted promptly to such remedies as were at command. Liberal quantities of salt and water and strong coffee were poured down the throat through a tube. Various external applications were used, but with very little effect. The heart's action was partially restored, and there were some other transient indications of remaining sensibility. These however, soon subsided, and Mr. S. was entirely dead at four o'clock. The action of the heart continued for a considerable time, after all respiratory efforts had ceased. Thus terminated the life of one of our most prominent and useful citizens.

The points of interest in this case were, the absence of all *violent* symptoms, and the very short space of time in which the poison produced its fatal effects. Excepting the one deep stertorous breath, all was calm and quiet, and although but little reliance is to be placed on the computation of time under such trying circumstances, yet facts enough are well ascertained to satisfy my mind, that not more than an hour, or at furthest an hour and a half, could have elapsed from the time the medicine was swallowed until death took place. The mistake was discovered in less than fifteen minutes after it was made. As soon as discovered, a messenger was despatched to town in all haste. That messenger arrived here, a distance of only four miles, precisely at four o'clock, and certainly in less than an hour from the time he started.

Would galvanism, the stomach pump, and other appropriate remedies, promptly applied, have proved efficient in resisting the fatal tendency of the poison?

No post-mortem examination was instituted.

WHEELING, *August 1st*, 1843.

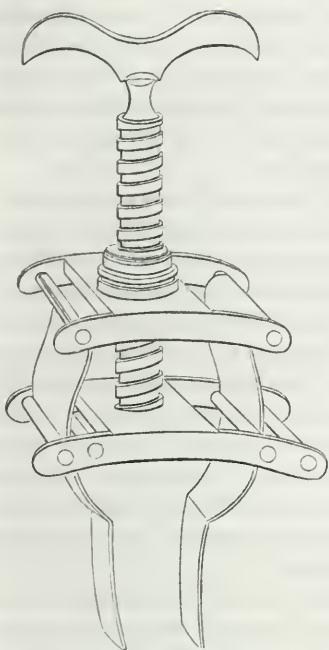
ART. VIII.—*Two cases of Immobility of the Lower Jaw, successfully treated.* By DANIEL BRAINARD, M. D., Professor of Anatomy in the Medical Department of the St. Louis University.

SYGNA Jouçou, ætat. nine years, has had for years an immobility of the lower jaw almost complete, its movements being so slight as scarcely to be perceptible. It was produced by a salivation occasioned by the injudicious use of calomel during a remittent fever.

Sept. 1, 1841.—The case presented the following appearances:—On the right side, at the angle of the mouth, there is a firm cicatrix half an inch in diameter, the result of an ulceration which had involved the entire thickness of the cheek. It extended in form of a firm band between the gums of the canine teeth of the upper and lower jaws, forming a barrier to the passage of any thing within the cheek. From this cicatrix to the root of the coronoid process, the jaws are united by a ligamentous structure to which the inner surface of the cheek firmly adheres. On the left side a similar band, to which the cheek is attached, extends from the coronoid process to the dentes cuspidati. The contraction of these structures has been so firm that the face is considerably shortened and deformed, the cheeks projecting, and the superior incisors, pressed from within by the inferior, stand out almost horizontally and are not covered by the lips. The speech is scarcely intelligible, the breath is offensive, she can take no solid food, and her health is much impaired.

On the 7th September, in presence of Dr. S. Willard, and Mr. Wm. Butterfield, student of medicine, the following operation was performed for her relief. The cicatrix on the right side was separated from the gums above and below, and the cheek detached freely from its adhesions; the ligament which extended between the jaws was then divided—it was very firm. The same process was then repeated to the requisite extent on the left side. The attachments being thus in a good measure removed, strong efforts were made to separate the jaws with the hands, but without success. Recourse was then had to a screw and lever, prepared for the purpose, by the aid of which the jaw was without difficulty depressed.

The instrument made use of for the purpose was formed by adapting two small plates of steel to the common tourniquet divested of its band. These being passed through the apertures in the lower part of the tourniquet, their superior recurved extremities resting under the rollers of the bridge, and the other ends being brought in contact by a gentle curvature, it is only necessary to turn the screw in order to separate these latter to the required extent. A glance at the accompanying figure, which represents the plates slightly separated, will render this description intelligible.



On opening the mouth nearly all the deciduous teeth, except the incisors, were found, with the alveolar processes, lying quite loose, keeping up ulcerations and giving rise to the fetor of the breath before mentioned. Small blocks of wood were placed between the incisor teeth in such a manner as to keep the mouth fully open, and allowed to remain during the period of cicatrization, being only removed to allow the patient to take food and drinks. The use of these was by degrees discontinued, the jaws were to a certain extent approximated, and at present, June 1st, 1843, more than twenty months since the operation, there is three quarters of an inch between the teeth, the speech is restored, she takes any kind of solid food, and the deformity is entirely removed.

CASE II.—Sophia Thill, ætat. 17 years, had in February 1842 a remittent fever, for which she took calomel to pyalism. Ulceration of the left cheek followed from which there remained a deep cicatrix, an inch in breadth, which involved slightly the anterior margin of the masseter muscle.

On the 17th July 1842, a similar operation to the former was performed. In five weeks the wound was cicatrized, the patient was able to open the mouth more than an inch, and the movements of the jaw were perfect. Such was its condition also ten months later.

In a case similar to the latter, reported in the *American Journal of the Med. Sciences* for Nov. 1829, Dr. Mott divided the cheek to get at the adhesions, which, however, was not done by Dr. Mighels in a case reported in the same *Journal*, No. 17. In a case resembling the first, Dr. Mott performed an “autoplastic” operation, removing the cicatrix and taking the necessary integument to fill the space from the side of the neck and face, “as the only means of overcoming the closure of the jaw.” The result of the first case, given above, shows satisfactorily that this may be effected to the requisite extent by other means. Indeed the method adopted was only a modified application of the same principle, autoplasty after the method of France or the French method. The free separation of the cheek brings it, when the mouth is pressed open, from above and below to supply the place of the lost substance; in this situation it adheres, leaving a portion of its substance free, between the gums of the upper and lower jaws, to which it is fixed.



The instrument employed to separate the jaws might in some instances have an advantage over that employed by Dr. Mott, of which the blades diverge very much when open, and in others over that of Dr. Mütter, which in a case of perfect closure could not be introduced into the mouth; but what especially recommends it is the facility with which it can be constructed in any place without the aid of an instrument maker.

Ulcerations and sloughing of the mouth from injudicious use of mercurials are accidents of excessive frequency in many of the western states. In addition to the cases here given, and excluding two others in which the sloughing resulted fatally, not less than five cases of partial loss of the movements of the jaw from this cause have come within my knowledge; in one of these the tongue had been involved and the power of speech greatly impaired. From their frequency, attempts have been made to prevent the closure of the jaw and thus obviate the necessity of any operation. This has been attempted by putting some substance between the teeth, an expedient which does not succeed, from their looseness in their sockets. In other cases, pieces of silver or other metal have been placed between the cheek and gums to prevent their union, but I have not known of any instance in which a favourable result has thus been obtained.

Measures calculated to limit the extension of the disease and favour its speedy cure are to be put in practice, and the deformity which may remain can in most instances be in a great degree remedied, although it could not be prevented, by surgical means.

CHICAGO, June 5th, 1843.

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ART. IX—*Case of Traumatic Tetanus, in which the Sulphate of Quinia was successfully used.* By JOHN W. MALONE, M. D., of Quincy, Florida.

ON the 15th of May, my colleague, Dr. William Booth, was called to see a negro girl about 12 years old, of sound constitution, labouring under the usual symptoms of tetanus, particularly that variety called opisthotonos. The history of the case was as follows:—About ten or twelve days previously, she said, “she stuck a nail in her foot,” to which a lye poultice was applied, but suffering no farther inconvenience from it, no particular attention was given her, until the muscles of the extremities became rigid, with inability to move without inducing spasm; stiffness of the jaw supervened, and the spine was drawn back in a curve, all of which was supposed to have been produced from a fall she received on the day these symptoms occurred. She was bled, had her bowels operated on and took morphia, but the symptoms became more violent, and excited in the minds of the family, the suspicion that they might be produced from the wound in the

foot, which they had supposed well. An examination was consequently made, and pus was squeezed out from the punctured surface, at which time my colleague was sent for. He made a free incision into the foot: applied a lye poultice, administered opiates and calomel, and had the butter of antimony rubbed along the whole spinal column.

*Tuesday, 16th.*—I saw her for the first time this morning, in the absence of Doctor Booth, and removed from the foot a splinter more than an inch in length. Symptoms more aggravated, great spinal recurvation, the mouth can scarcely be opened, frequent spasms about the throat, tongue loaded with yellow fur, great rigidity of the extremities, epigastric region tense and unyielding, and pulse tense and quick. Applied spts. turpentine to the wound to promote suppuration, continue lye poultice: Ol. Ricini  $\zeta$ ss., Ol. terebinth.  $\zeta$ i. to move the bowels, and laudanum to subdue spasm. In the evening, we both visited her together, and finding no amelioration of the symptoms, we determined to bleed her copiously, and then to use laudanum in large doses, so as to keep the system completely under its influence, and if this course did not succeed, we then concluded to try the effects of the quinine. The laudanum was tried for two days and nights, with no permanent benefit to the patient, the spasms returning with increased violence, as soon as we suffered the system to get from under the influence of the opium.

*Thursday, 18th.*—The case appears to be hopeless; the pulse ranges from 135 to 140, the epigastrium is firm and unyielding; no suppuration is induced in the wound, although the most active irritants have been used; the rigidity of the muscles is increased, frequent spasms extend from the foot to the stomach and from thence to the throat; pain in the epigastric region upon pressure, and frequent hiccups—five grains quinine, 15 drops laudanum in a glass of wine were now given every two hours, and 15 grs. calomel were also ordered to be followed by oil or injections in the evening. The quinine was discontinued after taking 15 grains, from its having produced *tinnitus aurium* with *partial deafness*. Copious perspiration with less frequency of pulse and an increase of volume followed, together with a partial relaxation of the muscles. The following treatment was now adopted and continued with but little variation, throughout the case:—sulphate quinine three grains, mur. morph. gr.  $\frac{1}{3}$ , to be taken every three hours, with an occasional glass of wine. The wine had to be largely diluted in order to prevent its inducing hiccup. The bowels were kept open with castor oil and injections, and on the 29th of the month she was discharged convalescent.

*Remarks.*—Notwithstanding the violence of the symptoms, and the great muscular contraction that existed, still the patient complained of very little pain except when an attempt was made to move her, by raising her up or bending a limb, or when operations were induced upon the bowels, or irri-

tants were applied to the wound in the foot. Violent pain and spasm of the stomach and jaws were excited in every instance by these remedies, and notwithstanding its extreme sensibility, still no suppuration ever followed the application of spirits turpentine, blistering ointment, lunar caustic, &c. which were freely used for the purpose of promoting it. As soon, however, as the remedies were discontinued, the edges of the wound sloughed off, and it healed up immediately, as it were, by the *first intention*.

I will remark, in regard to the effect of the constitutional remedies used, that as long as we kept our patient completely under the influence of opium, the spastic rigidity of the muscles partially gave way, but soon returned with increased violence, whenever they were discontinued; but when the quinine in conjunction with the morphium, was resorted to, a continued and copious perspiration was kept up, the pulse became less frequent, and increased in volume, the spasms returned at longer intervals and gradually subsided, the rigidity of the whole muscular system yielded, the spine lost its abnormal curvature, and on the tenth day after this treatment was adopted she was able to sit or stand up, and on the fourteenth day from the time we saw her, she was discharged, labouring under nothing but slight debility and some distortion of the countenance. The quinine was continued, however, for several days, in small doses. after we stopt visiting her, in order to keep the system slightly under its influence, so as to prevent any accumulation of muscular irritability and to impart to it energy and healthy action. Large doses of quinine has the remarkable effect of diminishing the rapidity of the pulse, where active inflammation does not exist in any important organ, such as the brain, stomach, intestinal canal, &c. and it has never in my hands failed to be beneficial in all febrile diseases, where, together with the effect mentioned, a general perspiration is established. It calms nervous excitement, quiets restlessness, removes all those transient and disagreeable pains, to which the *fever patient* is frequently subjected, and acts in many respects in perfect accordance with the general idea we have of a *sedative*.

It is also proper to add in conclusion, that the butter of antimony applied early in the disease, to the whole extent of the spinal column, produced considerable and immediate inflammation, but we did not observe any manifest or permanent benefit from its use.

QUINCY, Florida, June 22, 1843.



## REVIEWS.

ART. X.—*On the Nature and Treatment of Stomach and Renal Diseases, being an Inquiry into the Connection of Diabetes, Calculus, and other affections of the Kidney and Bladder, with Indigestion.*  
By WILLIAM PROUT, M. D., F. R. S., &c. Fourth edition, revised—  
London, 1843, 8vo., pp. 593.

THE second edition of this work was published in 1825; and although for many years almost the only treatise in the hands of the medical profession, concerning the important relations of renal disease to indigestion, its progress towards popularity was greatly slower than that of the edition of 1840, which, nevertheless, divided public attention with many other works, and especially with that of M. Rayer, so remarkable for its completeness and accuracy, as well as for the pictorial illustrations that accompany it. The present edition is essentially the same as the last; the third book, however, was originally printed as an "Introduction," and, as its contents are, for the most part, elementary views of organic chemistry, and of the physiology and pathology of assimilation, we shall, in this notice, restore it to its former and natural position. Without a previous acquaintance with these facts and doctrines, the body of the work would, we fear, prove quite unintelligible to any but an accomplished chemist; the general reader would lay it aside impatiently, on discovering that a book professing to be "practical" drew many of its precepts from theories of which the very nomenclature was new and peculiar, and thus abandon what the general voice of the medical world has pronounced to be a source of highly valuable instruction.

In the absence of any previous account of Dr. Prout's treatise, a detailed examination of it is, perhaps, now due to the readers of this journal. A critical review of its doctrines is not, however, the present object, for such a task would involve the necessity of a controversial discussion, in which the views of Liebig, Christison, Solon, Rayer, Jones, Beequerel, and many others would demand a comparison with those of our author; and the writer of this article feels neither the inclination nor the ability to undertake a controversy upon ground so uncertain as that of organic chemistry, where the doctrines of a professor have as little permanency as inscriptions upon the sea-shore, and where the successful support of a theory seems to depend rather upon the ingenuity and dexterity of its defender, than upon his being armed in the panoply of nature and of truth.

After having stated that, in general, the ultimate principles of vegetable bodies are hydrogen, carbon, and oxygen; while animal bodies have super-added a fourth, namely, azote; and that in both classes are to be found certain additional principles such as sodium, phosphorus, iron, chlorine, sulphur, &c., Dr. Prout considers the four great classes of alimentary proximate principles; the *aqueous*, the *saccharine*, the *albuminous*, and the *oleaginous*. Of these, the aqueous is of, perhaps, the first importance, not only

on account of its forming four-fifths of the weight of the blood, and nearly three-fourths of that of the solids, but because it is the medium through which nearly all the operations of the economy are conducted, and is apparently necessary to the production of vital phenomena. Saccharine bodies are derived chiefly from the vegetable kingdom, and are either crystallizable, as sugar and vinegar, or uncrystallizable and organized, as the different forms of the amylaceous principle, lignin, and gum. Albuminous aliments are furnished principally by the animal kingdom, and all of them contain azote. They are not naturally crystallizable. The principal modifications of them are gelatin, albumen, fibrin, curd, and gluten. Oleaginous bodies are divided into fixed and volatile. The latter are principally derived from the vegetable, and the former from it as well as from the animal kingdom. The principal fixed oils used by man, are suet, lard, butter, train oil, olive oil, nut oil, &c. Almost all natural oily bodies are divisible into two portions, of which one is usually more or less solid (*stearine*), and one always fluid (*oleine*). Of these proximate alimentary principles, the saccharine contains from forty to fifty per cent. of carbon; the albuminous from fifty to seventy-five per cent.; and the oleaginous about eighty per cent. of this principle. One of the most remarkable features of these bodies is the readiness with which, under the influence of the organic agents, they pass into, and combine with one another. They are, further, all susceptible of transmutation into new principles; thus, the saccharine principle is convertible into oxalic acid; or, under other circumstances, into modifications of the oleaginous principle, as alcohol, &c. These modifications are, however, either confined to glandular secretions; or are excrementitious, or extra-vascular; they form no part of the living animal producing them, although they are often attached to it, as in the case of shells, &c. in the molluscos tribes.

Now, since there is identity between the composition of animal bodies, and the food by which they are nourished, and since they are essentially constituted by the four "staminal principles" just enumerated, it follows that the food of the more perfect animals should contain more or less of each of these principles; and such indeed is the dictate of experience as well as reason. The only universal and natural animal food is milk, every sort of which is a mixture of the four staminal principles; and it would hardly be possible to name a substance, constituting the food of the higher animals, which is not essentially a natural compound of at least three, if not of all four, of the great principles of aliment.

We have next to inquire how these nutritive materials are disposed of when received into the animal economy. Dr. Prout describes the various changes to which they are subjected, under the heads of primary and secondary assimilating processes. The former of these comprises the process of digestion, and the intermediate processes up to sanguification, inclusive, and is considered chiefly in its relations to secondary assimilation, presently to be noticed. The operations of the stomach are all of a *reducing* kind; that is, the alimentary matters are reduced by them, and through the admixture of water, to the "*lowest*" possible condition. In this state the chyle, entering the lacteals, becomes gradually "*raised*," till it reaches the thoracic duct, where its properties are found to be considerably developed. Then entering the blood-vessels, it is finally rendered "*complete*" by subjection to the respiratory process, and is adapted to the purposes of nutrition. The reducing operation of the stomach is viewed

by our author as essentially chemical, and as consisting in the combination of the elementary matters with water. The result is the production of chyle, which, although the proportion of its ingredients may vary, and although it may be formed from various sorts of food, is really constant in its composition. This process, also, Dr. Prout considers as chemical. The *completing* process, on the other hand, by which the weak and dead aliment is raised to strength and aptness for union with the living body, must unquestionably be vital. The reduction of food in the stomach is effected through the agency of the gastric juice, of which chlorine, in some state or other of combination, would seem to be a necessary ingredient. This chlorine is furnished by the muriate of soda in the blood, and by means, Dr. Prout suggests, of "some modification of electricity." The phrase we have quoted, is too often employed by philosophers who, not satisfied with unveiling many of the mysteries of nature, would overleap the boundary which separates material from vital phenomena. An illustration of this tendency occurs also in the following paragraph.

After establishing the fact that muriatic acid is yielded to the stomach by the blood, Dr. Prout inquires, what becomes of the soda from which it is separated? A portion of this, he says, "is requisite to preserve the weak alkaline condition essential to the fluidity of the blood, but the larger part is probably directed to the liver, and is elicited with the bile in the duodenum, where it is thus again brought into union with the acid which had been separated from the blood in the stomach. . . . We have in the principal digestive organs a *kind of* galvanic apparatus, of which the mucous membrane of the stomach and intestinal canal, generally, may be considered as the acid or positive pole, while the hepatic system may be considered as the alkaline or negative pole."

Dr. Prout and Liebig agree in considering lactic acid in the stomach as the result of a deranged function, and not, according to the opinion of many chemists, as usually produced during the digestive process. It is probably sometimes furnished by the blood, and sometimes by the decomposition of ingesta. Oxalic acid when not introduced into the stomach with food, as in sorrel, the esculent rhubarb &c., is always a result of disease.

It has already been stated that whatever be the nature of the food, the general composition and characters of the chyle formed from it remain the same. Hence we must ascribe to the stomach "*converting*" powers, by virtue of which aliments that are not adapted for speedy assimilation, may be fitted for the purposes of nutrition. The albuminous and oleaginous principles are readily assimilable without any essential change in their composition; but the saccharine is not so, without considerable modification. Under *ordinary* circumstances the converting powers of the stomach change the saccharine and albuminous principles into the oleaginous, and the last, as well as the saccharine, into the albuminous. "The conversion of saccharine into albuminous and oleaginous matter is by far the most important. It is the last that ceases to exist in an animal; and often remains, to a certain extent, long after the power of appropriating albumen and oil have ceased." We do not think it very clearly appears how albuminous or oily matters produced by the conversion of saccharine aliment, should be appropriated with greater facility than are such matters when originally introduced into the stomach. Under *extraordinary* circumstances, Dr. Prout thinks that "the assimilating organs appear even to decompose prin-



ciples which are still considered as elementary, and thus to *convert* them into azote or carbon; so that it is impossible to define what, on an emergency, these organs are capable of doing."

To the organizing and vitalizing function of the stomach, Dr. Prout refers all those changes which cannot be referred to chemical laws, as well as those individual peculiarities which have originated the proverb, "one man's meat is another man's poison." He also points out that although the reducing, converting, and organizing processes are sufficiently distinct from one another, yet they do not take place in succession, but go on all at the same time; so that as soon as a portion of food begins to be dissolved, its future changes seem to be determined. The consequence of this union of the digestive processes is that the staminal principles are all developed in the chyle as soon as the excrementitious matters are separated by the biliary and pancreatic fluids.

Dr. Prout uses the term *secondary assimilation* as including the *formative* processes, or those by which the principles of the blood are converted into the several tissues, or into secretions designed for ulterior use in the economy,—and the *destructive* processes, including the extinction of the different tissues, and their conversion into new principles for further use, or for excretion. These processes are conducted according to certain general laws, to one of which it may be well to allude. When a definite substance is converted into one or more new principles, these latter are complementary, one to another: that is to say;—the composition of either must be such, as that taken together with the other, it will form the original substance. Of the new principles, one or both may be excrementitious, or designed for further use in the economy.

Thus albumen and gelatine are converted into principles, one or both of which are applied to further uses in the economy; whereas, in peculiar states of disease, gelatine appears to be almost wholly converted into some modification of the saccharine principle, and urea, both of which may be considered as excrementitious. The *incidental* mineral elements present in organized bodies do not assume the form of binary compounds during a state of health, and when found so combined, they indicate the mal-assimilation or destruction of the tissues, and sometimes the particular tissue affected by disease.

Dr. Prout considers the formation of gelatine from the albuminous principle of the blood as of high importance, not only because the gelatinous tissues form the frame-work of the body, but because their elaboration is nearly connected with the respiratory process. "For when albumen is converted into gelatine," says Dr. P. "carbon is eliminated, which remains associated with the venous blood till its arrival in the lungs; where, by combining with the oxygen of the atmosphere it is converted into carbonic acid gas; in which form it makes its escape from the body." It will be observed that this theory is opposed to the one most accredited, and which supposes the venous blood to contain carbonic acid fully formed, so that on reaching the lungs, this gas is excreted, and its place supplied by oxygen.

No very decided opinion is expressed by our author touching the ulterior changes of the albuminous principle, although he does not doubt that certain portions of the albuminous tissues become effete, and are removed from the system, during the destructive assimilating processes, under the

form, in part, of lithic acid which is usually in combination with ammonia. Of the ulterior changes in the oleaginous principle very little is known.

A section of the work before us is devoted to an inquiry into the general pathology of the primary and secondary assimilating processes. In regard to the former of these it is stated, plausibly enough, that the source of evil is most frequently in some derangement of the reducing power of the stomach, for what is not reduced, or dissolved, can never be converted, still less vitalized, but must either remain in the intestinal canal, or being absorbed into the circulation, in the form of some non-assimilable product, must be rejected either with the bile, or the urine. Hence a fruitful source of disease. Our author looks upon the period of adolescence as that in which the greatest danger arises from derangements of the converting process in its first stage. At that period, during a state of health, the portions of chyle which have not been appropriated by the economy are usually passed off in the urine under the form of lithate of ammonia. But if from constitutional weakness they are not so disposed of, they yet either fail to be converted into blood or "are mal-converted into the comparatively insoluble pseudo-albuminous matter of struma; which in passing through the lungs lays the foundation (perhaps at first mechanically) of tuberculous deposition, and future accretion. . . . Strumous, lithic acid, and gouty diseases, are all the results of mal-assimilation of the albuminous principle, and often gradually run into one another. The gouty chalk-stones of old age may be considered as little more than modifications of the serofulous tubercle of youth. Moreover, the offspring of those labouring under gout and struma are more subject during the period of adolescence, to tuberculous phthisis than other individuals." It is an opinion established upon unquestionable facts that serofula and gout usually occur under conditions directly opposed to one another; the one in persons subjected to fatigue, want of light and air, and obliged to subsist on vegetable food, while the other attacks chiefly the indolent classes of society, surrounded by luxury, and consuming an excess of animal food. But the fanciful hypothesis of Dr. Prout, so gravely taught, is only another instance added to the many we already possess, of the imperfect vision which afflicts scientific men, when they habitually limit their range to a narrow field, and make their observations from one side only of that. After describing some of the errors of the secondary assimilating processes, Dr. Prout remarks that these are of a much more formidable character than those which depend on derangements of the primary processes. In the latter, the appearance of sugar, oxalic acid, &c. in the urine, is unaccompanied with severe constitutional symptoms, while in the former, similar admixtures with the urine are usually accompanied with marked general symptoms not only, but frequently with visible disorganization of the gelatinous tissues, appearing in the form of carbuncles, cutaneous diseases, &c.

We pass over a section on the composition and properties of the blood, because it contains nothing which may not be found in familiar treatises on organic chemistry, merely reminding our readers that the albuminous principles of this fluid contain azote, that the oleaginous are without this element, and that the saline matters consist chiefly of common salt, with soda in some loose state of combination.

The following is an abstract of the general conclusions of Dr. Prout concerning the functions of the liver and kidneys. *1st.* The liver is the organ by which the blood is depurated of the unassimilated and superfluous

*oleaginous* matters, as well as of those portions of blood which are deprived of their azote, of their saccharine constituents, and consequently of their vitality, during the primary assimilating processes. 2nd. The kidneys are the organs by which the blood is depurated of the unassimilated, superfluous, and effete *albuminous* principles, as well as of the mineral matters incidental to these principles, or which are otherwise derived. 3d. The neutral *alkalescent* characters of the *bile*, and the oxygenated and *acidulous* characters of the *urine* show that the general character of the actions going on in the liver and the kidneys are directly opposed to each other. 4th. This opposition is further manifested in that the principles separated by the liver retain some of their vitality for ulterior purposes, while every thing passed from the kidneys is carefully divested of its vitality. These functions are imperfectly performed in disease.

Having thus given an analysis of the elementary portion of Dr. Prout's treatise we proceed to follow out his application of the principles therein contained, to the examination of particular diseases. Although from the title of the work we should expect to find in it descriptions of "stomach disease," there are none such contained in it, Dr. Prout, apparently, not having considered it necessary to inquire whether lesions of the coats of the stomach have any share in producing those derangements of primary assimilation, which, in their turn, induce the more serious disorders of nutrition. The symptomatology of renal diseases receives the fullest consideration. The general division of diseases adopted in the work before us, is into "functional" and "mechanical," under the latter of which are included organic diseases, and yet with the former are ranked "inflammation" and "degeneration" of the kidneys.

The special pathology of the assimilating processes is treated of under four heads, corresponding to the four classes of proximate alimentary principles. The first of these is the aqueous. Upon the quantity of water discharged by the kidneys *cæteris paribus*, depends the specific gravity of the urine. The quantity varies with the season, and its daily average in a healthy person, may be stated at about thirty ounces of sp. gr. 1.025 in the summer, and about forty ounces of sp. gr. 1.015 in the winter. Other circumstances cause the qualities of the urine to vary even in health. Thus after moderate eating and drinking, this fluid is charged with many of the products of primary assimilation; but after fasting, it contains only, or chiefly, those of secondary assimilation. These correspond to *urina sanguinis*, and *urina potûs*, of the old writers. The former, which is best represented by the urine voided on rising in the morning, is very uniform in its properties; the latter, or that which is voided in "the evening after dinner," is subject to much greater variations, both in quantity and quality. Our author points out a number of these variations, and their value in renal semeiology, but we cannot pause to notice them in this place.

The pathology of saccharine assimilation is treated of under the heads of "diabetes," the "oxalic acid diathesis," and the "lactic acid diathesis." Dr. Prout's general view of the rationale of the processes involved is the following. The blood of a healthy person contains no sugar, though that article may have formed a portion of his food. The saccharine principle must, therefore, by virtue of some agency in the stomach be convertible into the constituent principles of the blood. But this power may be suspended or deranged by disease, and the sugar of the chyme be absorbed,



as such, into the general circulation. This sugar may also be *formed* in the stomach, as the first natural step towards the *conversion* of the aliment into albuminous and oleaginous matters. But the converting function being suspended, or paralyzed, the sugar is at once taken up by the blood-vessels, from which it is ultimately excreted through the kidneys. It has, moreover, been recently demonstrated that the stomach of a diabetic patient possesses the faculty of elaborating sugar from substances which in a healthy person are *directly* assimilated; and thus we are enabled to perceive why those affected with diabetes become more and more emaciated in spite of their rigid adherence to a regimen of animal food. The above theory is at the least plausible; and, though defective by not including the first link in the chain of morbid causes, or the physical condition of the stomach producing so considerable a change in the functions of that organ, yet it is luminous, and satisfactory, in comparison with any other "pathology of diabetes" hitherto professed.

In other diseases the function of *conversion* is not suspended, but *erroneously exerted*, so that many principles, some of them of a poisonous character, as, for instance, the oxalic acid, are developed from the saccharine principles, during the assimilating processes. Dr. Prout is of opinion that, besides the oxalic and lactic acids, other unnatural principles appear to be occasionally developed from the saccharine principle, during the processes of assimilation; and this, he thinks, is especially true in the malignant fevers of hot climates, when of a miasmatic and contagious nature, and mentions the acid reaction of the black vomit in yellow fever as illustrative of his remark.

Of the internal causes predisposing to a mal-assimilation of the saccharine principle, Dr. Prout mentions two, namely, inherited predisposition, and all circumstances affecting the general health, and depressing the vital powers. The most frequent external exciting cause is exposure to cold and moisture, excepting, says Dr. Prout, *malaria*. This latter agency, our author thinks, is connected with almost every form of disease in which acids are generated during the assimilating processes. In confirmation of this opinion he cites an interesting observation made by himself about the time when the Asiatic cholera prevailed in England. Previously to that time, he had found the oxalic acid diathesis of rare occurrence in London, but, as soon as the cholera began to prevail, the urine began to give evidence of containing oxalic acid; the saliva, and cutaneous exhalations, were acid; and, a little later, there were more cases of oxalate of lime, renal calculi, and formidable hæmorrhage from the kidneys, than our author had ever before seen, since he began to study urinary diseases. As the cholera disappeared, this state of things gradually subsided. Dr. Prout of course considered the cholera to be malarious. Whatever explanation others may give of the facts here adduced, they are in themselves, highly interesting. That certain articles of food, and deficient or unwholesome diet, will produce the acid diathesis has already been pointed out by other writers. Dr. Prout indulges in a vehement protest against the use of tobacco. He does not doubt that it seriously interferes with the proper assimilation of the saccharine principle, and says that although he has "never been able to trace the development of oxalic acid to the use of tobacco, some equally poisonous principle is probably generated in certain individuals, by its abuse, as is evident from their cachectic looks, and from the dark, and often greenish yellow tint, of their blood." He has "seen

cases of dyspepsia, produced by snuff taking, terminate in malignant disease of the liver and stomach," and mentions, with some indication of belief, that "great smokers who employ short pipes, and segars, are said to be liable to cancerous affections of the lips."

It would have been well for our author to have examined the facts of the case before hazarding an opinion which may excite the astonishment of many readers of his work. Such facts as the following would perhaps have thrown some light upon the subject; the Irish and Germans use the pipe habitually, the latter constantly; the Americans and West Indians smoke segars; the French consume large quantities of snuff; is, then, cancer of the lip more common amongst the former nations, and "malignant disease of the stomach" more prevalent in the last? Such an examination as this would have furnished something more tangible than a second-hand hypothesis.

To prevent confusion, Dr. Prout recommends that the term "Diabetes" be confined to the disease of which a *saccharine state of the urine* is the characteristic symptom. This state is, however, generally accompanied by diuresis. The invasion of the disease being gradual, a difficulty is often experienced by physicians in determining the date of its commencement. Dr. Prout thinks that by inquiring minutely when the urine *was last observed to be turbid*, he has several times traced attacks very nearly to their origin. In such instances patients have usually stated that at some former period the continued turbidness of the urine attracted their notice, and that they referred it to exposure to cold, or to an attack of gout, or rheumatism, &c. Now, our author considers it probable, that about the time the urine grew clear, its saccharine qualities became developed, or at least, confirmed, although at this period the diuresis did not exist, and did not attract attention by its quantity, for several weeks, or months, afterwards.

A full and very distinct account of the symptoms of this disease is given in the work before us; they are already familiar to our readers, and need not detain us. The terminations of diabetes are very various, but Dr. Prout thinks that phthisis is the most common amongst them.

Among the *causes* of diabetes Dr. Prout appears inclined to rank cutaneous affections, upon the ground that these often *precede* the alteration of the urine, and disappear as soon as that is established. He has also remarked that affections of the cellular tissue, such as carbuncles, and malignant boils, *accompany* the formation of saccharine urine, so frequently, indeed, that in every case of these cellular inflammations observed by him, he has found diabetic urine.

Of the treatment, Dr. Prout remarks, that we must have regard to the quantity, as well as to the saccharine condition of the urine, and that inattention to this precept has caused many agents to be vaunted as cures for the disease, which, in reality, could only affect the diuresis. He looks upon a regulated diet as the principal resource, and while he admits the necessity of a diet principally animal, he would still combine with it a certain proportion of farinaceous matters. The reason for such a recommendation is that the saccharine principle continues to be assimilated as long as the stomach performs any of its functions. Of the farinaceous substances, the best adapted to the present object, are the *high*, or *strong*, such as the farina of wheat, in the shape of unfermented bread, biscuits, &c. Every variety of sugar in its crystallizable forms is inadmissible,

including all fruits. A precept of universal application, but which has a peculiar appropriateness in relation to this subject, is, that "it is easier to abstain than to be abstemious," and we question very much the prudence of giving to a subject of saccharine disease even a qualified permission to use farinaceous articles of food. Besides the craving for variety natural to a person restricted to a single and unvarying dish, there must be always, in such cases, a hankering after that which is forbidden, merely because it is so; and the least indulgence of appetite must therefore be dangerous to a diabetic patient, to whom, emphatically, "stolen bread is sweet."

Dr. Prout insists strongly on moderation in the use of food; and to ensure it, as far as possible, recommends that the repasts be taken at regular periods of four, five, or six hours, and that, for an hour or two after eating solid food, fluids should be abstained from as much as possible, and, that when used these should be tepid. We are obliged, by want of room, to pass without notice some very judicious remarks upon two classes of cases; namely, those in which the dissolving power of the stomach is morbidly active, and those in which it is feeble. Of the proper medicinal treatment of diabetes, Dr. Prout has little to add to what has been said by other writers upon the same subject. He passes in review a variety of remedies; denies the existence of any specific for the disease; recommends leeching to the epigastrium, in acute cases, as if he caught a glimpse of something more than a chemico-vital derangement there; prohibits saline purgatives because of their diuretic influence; favours the use of diaphoretics on account of the habitual dryness of the skin; refuses to opium any real influence upon the saccharine state of the urine, affirming that it merely controls the diuresis; thinks favourably of the feruginous preparations, and especially of the phosphate of iron; but concludes with professing his ignorance of any agent capable of controlling the essential symptom of the disease.

Our author directs his reader's attention to the *complications* of diabetes, which, he says, usually exist in the early stages of the affection, and consist chiefly of "hepatic disorder or disease." This phrase, he says, "naturally introduces the subject of *mercury*." By which he means that the greater number of physicians never meet with derangement of the liver, without thinking of mercury, and, indeed, rarely without using it. A certain off-hand success with this agent in many biliary derangements induces too many practitioners to resort to it without due regard to the remote consequences of its administration. Dr. Prout insists, that "*when it has no real disease to combat, mercury is liable to give occasion to disease*," that the use often leads to the abuse of it, because the liver, accustomed to the stimulus of mercury, will hardly respond to any other influence; that a "large proportion of the most inveterate dyspeptic and urinary diseases" which he has observed, "have been distinctly referable to the abuse of mercury;" and that he has never seen mercury do good in diabetic disease, but, on the contrary, almost invariably do mischief. Some interesting remarks on diabetic diuresis as it occurs in young children conclude the present chapter.

*The oxalic acid diathesis* is treated of by our author chiefly in reference to those diseases which are accompanied with the formation of oxalate of lime calculi. The presence of this acid in the system to a considerable extent, is generally shown by the transparency of the urine and the absence of sediments in it, by its being of a pale citron-yellow, or



greenish hue, and of moderate specific gravity. But these signs are not conclusive; for the urine of healthy individuals may, from accidental causes, occasionally assume appearances like those stated. In such cases we must be guided by the general symptoms, and these belong to the irritable or nervous class, rather than to the congestive or inflammatory. They are well described in Dr. Christison's essay upon gravel in the "Library of Practical Medicine." They have no very peculiar significance, for "flatulence and irregular action of the heart" are the most frequent amongst them. Hæmorrhage from the kidneys has long been considered as indicative of oxalate of lime calculus, and has been attributed to the mechanical action of the rough surface of this form of stone. Dr. Prout is of opinion that "the chief cause probably lies in the nature of the diathesis," and supports his theory by referring to the observations made by him during the cholera, (which have been already detailed,) and with the additional remark, that all the symptoms, including the hæmorrhage, sometimes existed, without being accompanied or followed by the passage of renal calculi. Of the exciting causes of the oxalic acid diathesis, the most prominent, according to Dr. Prout, is malaria. He enumerates many others besides. The proximate causes are regarded to be the non-assimilation of oxalic acid taken as food, and the mal-assimilation of saccharine aliments.

The appropriate diet in this disease, is nearly the same as that recommended in diabetes. But in the former, the tone of the stomach is apt to be impaired; in which case, our author says that "French cookery, by which animal and other matters are reduced to a semifluid or pul-taceous mass, often agrees better than the crude and solid chops and steaks" of the English *cuisine*. Dr. Prout's experience must have been unfortunate in the matter of "French cookery," since he describes its achievements in terms so uninviting, and so redolent of the laboratory. The purest, even distilled water, should always be preferred as a drink; but where previous habits require the use of a stronger beverage, a little sound porter, or dry sherry, may be cautiously taken; but weak brandy and water is preferable to most wines. The mineral acids, alone, or combined with mineral tonics, may be taken with advantage, but must be suspended as often as they produce a deposition of the lithate of ammonia, or of lithic acid in the urine. In this way the diathesis is sometimes gradually subdued, and at length removed altogether.

The *muriatic and lactic acids* "are always present in the stomach during the reducing process, and their presence appears to be necessary to the accomplishment of that process." This opinion of Dr. Prout is not in strict accordance with that already quoted, and which considers the lactic acid as usually the product of a deranged function. However, this may be, both of the acids are sometimes present abnormally; the muriatic being generally in excess in the dyspepsia of persons inclined to a bilious temperament, and the lactic in that of nervous and feeble persons. The bile, it has already been intimated, is sufficient to neutralize the free muriatic acid which passes from the stomach to the duodenum during healthy digestion; but when lactic acid is generated in excess, there is nothing, according to Dr. Prout, to neutralize it; wherefore it either passes into the lower bowels, or is taken up by the lacteals, giving rise to numerous secondary symptoms. "Excessive acidity of the cæcum is generally accompanied by a deficient secretion of bile, apparently from spasmodic

stricture of the common gall duct; or it may be, of the biliary ducts themselves," &c. &c. Several pages of such opinions and reasoning follow. We pass them by without other comment than the expression of profound regret that one whose life has been devoted, and with such remarkable success, to experimental science, should indulge in fictions of so injurious a tendency; for they were written not to amuse, but to instruct; they were meant to be used not as the pastime of an idle hour, but as guides to those who are entrusted with the lives and happiness of their fellow men. Some really practical remarks made by our author upon the treatment of these acid derangements, are nevertheless deserving of remembrance. The acid residua of a meal should be neutralized when the digestive processes are completed; that is, from three to six hours after the meal has been taken, and for this purpose from ten to thirty grains of carbonate of potash, with four or five grains of nitre, will be sufficient. The use of this remedy must be persevered in until the tendency to form an excess of acid is cured by diet and other means; for let it be bore in mind, that *alkaline remedies have no effect in preventing acidity, but only in neutralizing the acids already formed.* When there is reason to believe that there is much acidity in the lower bowels, an enema of soap and water is the appropriate remedy. Of *bilious attacks*, Dr. Prout says, "these derangements are not half so well understood as they are supposed to be; and there is no class of diseases, particularly as they occur about the middle or stationary period of life, requiring greater discrimination or judgment on the part of the medical practitioner, on whose mode of treatment very often depends not only the future comfort, but sometimes even the very existence of the patient." We commend this excellent remark to our *proneurs* of blue pill.

The pathology of albuminous assimilation and secretion is next considered under the following heads; viz. (a) derangements accompanied by the presence in the urine of an excess or deficiency of urea; (b) of albuminous matters; (c) of lithic acid and its compounds; (d) and of cystic oxide.

An excess of urea may or may not be accompanied by diuresis. The principal symptoms of this, as well as of nearly all the alterations in the normal condition of the urine, are so nearly alike, that we cannot hope to present a complete picture of them in a notice like the present, but must beg our readers to look for them in the original work. An excess of urea is rare. Dr. Prout thinks that its source in the economy is the gelatinous tissues. A deficiency of urea is most common in hysteria.

*Of Albuminous Urine.* This subject is considered under the heads of chylo-serous, and serous urine; the two varieties gradually running into each other, so that no well marked line of distinction can be drawn between them. Chylo-serous urine, when first voided, is always more or less white and opaque, and usually coagulates spontaneously. The constitutional symptoms are not very severe. The disease itself is not common in England, for Dr. Prout has only seen thirteen cases of it. It is not necessarily connected with organic disease of the kidney. Its predisposing and exciting causes are but little understood. The proximate cause, according to our author, lies partly in the assimilating organs and partly in the kidneys. The chyle is not raised to the blood-standard, and being therefore excrementitious, must be rejected from the economy through the kidneys. But these organs instead of reducing it to a crystallizable state, that is, into the lithate of ammonia, permit it to pass through them un-

changed. On the other hand, as a proof that the kidneys are themselves sometimes affected, it may be mentioned that Dr. Prout has often found chyle in the blood, when there was no trace of albuminous matter in the urine. No particular plan of treatment seems to have much influence on the disease, which, it should be known, occasionally disappears of its own accord, for years, and then again recurs, without any apparent cause. A case of twenty years duration is mentioned by Dr. Prout.

*Serous urine* may be excreted by the kidney in a state of health, or of "degeneration;" and the organ may in both these states, be quiescent merely, or become inflamed. This naturally gives rise to four divisions of the subject, of which the first concerns the healthy kidney in a quiescent state. Albuminous matter is never found in the urine in health. But if, as in the case of chylo-serous urine, the albuminous matters of the blood are not changed into lithate of ammonia (or *disorganized*) on being subjected to the action of the kidneys, they will be excreted with the urine, and found in it possessing their peculiar qualities. Dr. Prout does not believe that this occurs, without a condition of the kidneys "to which, for want of a better name," he applies the "epithet *inflammatory*," or without other parts of the system are more or less involved in a similar condition. This peculiar condition may be produced temporarily by mercury, cantharides, &c.; may follow attacks of fever; may accompany pregnancy; or be caused by indigestible food, or mental excitement.

The serous urine, accompanied by *acute inflammation of the healthy kidney*, is generally transparent when passed, but becomes opaque and turbid on cooling. Its colour is unusually deep, and its specific gravity high (from 1.018 to 1.030), in quantity it is less than usual; at the outset of the disease it is sometimes without sediment, which when it does occur, is usually of a deep brownish colour, and consists of lithate of ammonia. The application of heat renders the urine opaque. This disease, formerly called inflammatory dropsy, is now more generally known as "Bright's, disease." The symptoms of invasion are inflammatory, but their intensity is not, our author thinks, derived from the inflamed condition of the kidneys alone, since acute nephritis produces "a very different train of symptoms." The anasarca which frequently follows scarlatina, is nearly allied to this disease. In the treatment of inflammatory anasarca, active antiphlogistic measures are absolutely necessary, and the extent to which they are employed should be regulated in the usual manner, by the appearance of the blood drawn from a vein. After describing other familiar remedial measures, our author says, that, "when the patient has been fortunate enough to recover from the immediate attack, it will be absolutely necessary for him, for a long time, perhaps during the remainder of his life, to consider himself an invalid; to live abstemiously and carefully; to take regular and moderate exercise; and, above all things, to avoid exposure to cold and wet."

The section on "serous urine, the kidney being in a state of *degeneration*," is prefaced with some remarks on inflammation and degeneration. The latter of these terms is described as including "those slow and indefinite changes occurring in all living structures, from the gradual decay of the vital processes in general;" and in this sense is spoken of as a *cause* of organic disease. This process is the natural consequence of age, but may be an acquired weakness, at any time of life. The terms acute, chronic, and congestive inflammation, are not here used in their ordinary



acceptation. The first is restricted to inflammation in healthy structure; the second to "degenerated" structures; the third is said to be a consequence of either of the other two. If we understand Dr. Prout, he differs from other writers merely, in that *they* consider chronic inflammation of the kidneys as always following the acute form, while *he* maintains that it is often preceded or accompanied by "indefinable" degeneration; and further, in that while *they* look upon the quiescent state of the kidneys preceding the last acute attack as a state of chronic inflammation, *he* prefers to designate the same condition by the "indefinable" epithet "structural degeneration." It might be well to adjudge this dispute, if only the two parties could be brought to the bar: chronic inflammation answers, indeed, to the call; but as for the other party in interest, it is not forthcoming, and is found at last to have no representative but its name: *vox et præterea nihil*. Dr. Prout speaks very lightly of the post-mortem descriptions of pathologists, characterizing the contents of their works as "an unphilosophical jumble," and objecting to their deductions from pathological anatomy, because it could not enable them to "distinguish what was due to degeneration and what to inflammation." Dr. Prout has hardly a right to blame them for not perceiving what is "due" to an hypothesis entirely his own. But we owe it to Dr. Prout to state his own explanation of the degenerating processes. They may be due, either to *anæmotrophy* or to *hæmotrophy*, which mean, respectively, deficiency and excess of sanguineous nourishment. These conditions are, he thinks, naturally determined by the age of the patient. Thus, before the age of forty, there is no natural reason why the kidneys of a perfectly healthy individual, who has lived regularly, should suffer degeneration; but about that age, long continued habits unfavourable to health, such as the daily use of wine, and a stimulating diet, may induce or accelerate a change in the kidneys. The evidence of this change, then or at any other period of life, is not, as we might infer from its being made the basis of a classification by our author, a thing demonstrated or demonstrable by actual inspection of the deranged organs, but the alteration is *assumed* and nothing more, to account for the presence of albuminous matter in the urine.

Following the division here suggested, we have, 1st, serous urine, the kidney being in a state of anæmotrophy, and quiescent. The incipient symptom of this condition is, that the characteristic serous property of the urine is not *always* present. The colour of the urine is sometimes paler, and sometimes of a deeper colour than natural; often more acid than in health, and in that case depositing a pale or bright pink coloured sediment; it is also variable in quantity. The constitutional symptoms offer nothing peculiar. When the affection becomes confirmed, the urine is permanently serous, and becomes turbid on the application of heat or nitric acid; its quantity is generally above the natural standard; and it is deficient in the lithates, and in urea and saline matters. In the very last stages the urine is scanty, and this state usually ushers in a fatal coma. The constitutional symptoms do not differ from those of chronic renal disease in general, but are of an aggravated form. Our author quotes from Dr. Christison a list of the principal concomitant diseases, which are among the most formidable to which humanity is liable. Between most of them and the renal disorder there seems no other bond of union than that which the last named writer describes by saying, that diseases of the kidney "seem to engender an infirmity of constitution which renders the

body prone to disease in general." The children "of old drunkards and debauchees who have died of renal affections," are thought by our author to be predisposed to kidney disease. A stricture of the urethra is, in such persons, likely to arise from a slight gonorrhœa, and to lead to disorganization of the whole urinary system. Besides the general exciting causes of renal disease, this and kindred varieties are chiefly owing to "the abuse of ardent spirits," and in a less degree to venereal affections, and to the improper treatment of these latter.

The next division relates to serous urine "when the kidneys are in a state of hæmotrophy, and quiescent." This disease is most frequent about the age of forty, or subsequently thereto. In it the colour of the urine is usually natural, sometimes deeper than natural. It is almost uniformly acid; when passed is transparent, but often becomes opaque on cooling, depositing a dirty sediment, and does not become clear again without subjection to a gentle heat. At a temperature of 130° or 140° it grows turbid again by coagulation of its albuminous matters. Before the middle period of life, renal affections are most commonly connected with dyspeptic derangements, especially of the stomach, but after that period the liver and bowels are more usually disordered. When the disease has become confirmed it is very apt to pass into granular degeneration. The remarks upon "causes" and general "diagnosis" we pass by as containing nothing very tangible, or of practical value; but gladly dwell for a moment upon the answers given by Dr. Prout to two questions:—first, how far diseases of the kidneys are entirely removable? and then, if not removable, how far are they compatible with life? To the first of these our author replies, that in the very early stages, the disorder appears to be chiefly functional, and *therefore* removable. Indeed, if any thing can be inferred from the state of the urine, as far as the presence of albuminous matters is concerned, even the more advanced stages of the affection are occasionally so far removed, as to be hardly distinguishable by the urine. In regard to the second point, it may be remarked, that in renal diseases there is a constant risk from the disposition to inflammatory action, which, therefore, should be combatted when ever it manifests itself. If, then, this precept be obeyed, excitement of mind and body avoided, ardent spirits abstained from, &c., Dr. Prout is "decidedly of opinion, that a very large proportion of those who labour under renal affections may live for many years, and enjoy tolerable health—indeed better health, and more comfort, than are compatible with many other chronic and incurable diseases."

The treatment must be varied according to the age and circumstances of the patient. In early life the dyspeptic symptoms already alluded to, are singularly obstinate, and frequently baffle the practitioner. The three great points are attention to diet and regimen; the guarding against the influence of cold and moisture; and the avoiding all violent remedies. Flannel should be worn next the skin throughout the year; exercise should never induce fatigue, and should be taken under circumstances adapted to give occupation and to amuse, as in travelling by sea and land. By *violent* remedies are meant, the abuse of mercury, and of stimulating articles, such as the terebinthine diuretics.

If purgatives are necessary, castor oil is the best, if the stomach can tolerate it; rhubarb renders the urine irritating; to correct nausea, acidity, and flatulence, hydrocyanic acid is recommended, either alone, or associated with small doses of the fixed alkalies. When the kidneys and

bladder are unusually irritable, the *uva ursi*, conjoined with hyoseyamus, hop, &c. is often useful. When incipient nephritic degeneration occurs in advanced life, and is accompanied with signs of congestion in the head, liver, or chest, blood-letting, with a judicious use of mercurials, and the more active diuretics, are indicated. If there be a tendency to gout, resort may be had to alterative doses of mercury, with colchicum, and, associated with these, mild purgatives of the saline class. The diet should be light and moderate; when the active symptoms have abated, carbonated waters may be used to promote diuresis; and a little sound sherry or hock taken, if the patient be habituated to the use of wine. If this plan seems beneficial, it should be pursued until the urine has acquired its natural appearance and transparency, when it will often be found to have lost its albuminous character. In the confirmed and advanced stages, the same rules should be observed, and, in addition, fatiguing exercise, especially on horseback, carefully avoided. Riding on horseback is then very apt to cause bloody urine, or a tendency to the suppression of this excretion. The medicinal agents most likely to do good are diaphoretics, amongst which our author mentions favourably, citrate of ammonia, associated with an opiate, or with Dover's powder. He also recommends a seton in the loins. In conclusion he deprecates the *nimia diligentia medici*; the itch which doctors have to prescribe most, where least benefit is possible; and to make the unhappy victim of an incurable disease doubly wretched, by perpetually renewing for him the demonstration of the inefficacy of art. The judicious physician will, in a case of confirmed renal disease, know how to withhold his hand, and yet be ready to act promptly and with vigour, when inflammatory or other urgent symptoms arise.

The connection of an inflammatory state of the "degenerated kidney," with serous urine, is next examined. But as this affection has been amply described by Bright, Rayer, and others, from whom, indeed, Dr. Prout draws his most important remarks, we pass to the following section, which treats of "lithic acid." This acid exists in the healthy urine in such a state of combination, and in such proportion, as to be held in solution at all ordinary temperatures. But in certain conditions of the urine the lithic acid is precipitated, a phenomenon easily imitated by adding a few drops of any acid to healthy urine. The sediment thrown down may assume the form either of an amorphous impalpable powder, or of crystallized and massive concretions. The former may be yellow, and consist of lithate of ammonia tinged with the colouring matter of the urine; or red, by addition of the purpurate of ammonia; or pink, by admixture of both of the above salts, with little or none of the colouring matter of the urine. The first of these varieties belongs to the ordinary state of health; the second to febrile affections; and the third, to chronic visceral affections, especially of the liver and spleen. The crystallized sediments consist of lithic acid, nearly pure, and assume the forms of sand or gravel, amorphous concretions, and pisi-form concretions. Amorphous sediments and crystallized gravel occur in early life; renal and vesical calculi of lithic acid in the amorphous concrete form, prevail in middle life; and, in a more advanced age, there is a tendency to form numerous small concretions around minute nuclei.

Dr. Prout considers an inherited predisposition to be among the remote causes of lithic acid derangements, and to this he adds the "strumous diathesis, especially when associated with gout." The exciting causes may be classed under three heads; *diet, exercise, and atmospheric influences.*



An excess of food, particularly of animal food; certain articles indigestible by almost all human stomachs, such as "hard-boiled fat dumplings;" vinous or alcoholic drinks which are at once strong, sweet, and acescent; and "hard water," are among the most fertile causes of lithic acid deposits arising from errors of diet. Although riding on horseback, and other violent exercises affecting the dorsal system, may be ranked among the causes of the disease in question, yet bodily inactivity, conjoined with a full or improper diet, will be almost certain of inducing, sooner or later, either urinary deposits or gout. Cold and moisture tend to produce this as well as the other forms of renal disease.

The following view is taken by Dr. Prout of the *proximate* causes of lithic acid deposits. They are supposed to be derived principally from the albuminous principles. These latter when contained in excess in the alimentary matters are not assimilated, but are separated from the blood by the healthy kidneys under the form of lithate of ammonia. During feverish derangements this salt is probably derived also from the deranged secondary assimilation of the albuminous textures. The massive forms of lithic acid deposits, it is stated, are derived from the same sources as the above; but when thus deposited, the lithic acid is secreted either in connection with acids, which, combining with the ammonia of the lithates, set the lithic acid free; or in connection with other bases, as soda, &c., the compounds of lithic acid with which are less soluble than the lithate of ammonia.

The treatment of a case in which the yellow amorphous sediment is the habitual deposit, should consist chiefly in the regulation of the diet. In this an error of quantity is of infinitely more consequence than an error of quality, for, according to Dr. Prout, "any stomach may digest a *little* of any thing, but no stomach can digest a *great deal* of any thing." The febrile symptoms connected with the red and pink sediments of course require a treatment specially adapted to them. The question of "animal or vegetable diet" is discussed by Dr. Prout, who is of opinion that the truth in this matter lies between the two extremes, and that a mixed diet, due regard being had to quantity, is the best. Persons used to brandied wines are almost sure to bring on pains in the back, and gravel, by the occasional use of weak, acescent, wines; while individuals who have been accustomed all their lives to drink weak wines, cider, or perry, rarely suffer from gravel. Malt liquours operate unfavourably. Of the diluents, tea is best; and coffee, chocolate, &c. should be shunned altogether. Milk, from the sugar it contains, is not safe, if taken in large quantities. The use of alkalies should be governed by the rules already laid down. When they are given in combination with tonics, the good effects of both are lost; but the administration of tonics before meals, and of alkalies after them, is often productive of the best effect. The solvent influence of alkalies upon lithic acid concretions is not admitted by Dr. Prout; but he recommends that it should be sought for, if at all, in the use of those mineral waters which are naturally alkaline. Some individuals are intolerant of alkalies; one case is mentioned by our author, of a gentleman, in whom they produced an excitement bordering on delirium. These remedies should be exhibited in small doses, or else they will not only derange the assimilating functions, but also produce serious disorder of the nervous system.

A section, in the volume before us, is devoted to the history of cystic

oxide calculus. This disease is, however, extremely rare, and need not occupy us further, at present.

The pathology of oleaginous assimilation and secretion, (of which, it is confessed by Dr. Prout, we know much less than we ought to know,) is treated of under the heads of *obesity*, *leanness*, and certain derangements in the qualities of the oleaginous principle, of which the production of *gall-stones* is an example. Obesity is very frequently inherited, as the most trivial observation proves: it is more common in moist and temperate, than in cold or in hot climates; but is rapidly induced by high feeding, heat, indolence, and want of thought, united. Dr. Prout cites familiar illustrations of this, and alludes to the method of fattening animals artificially, especially that of preparing geese for the manufacture of *patés de foie gras*. The livers of these unfortunate birds are not only hypertrophied by the process, but, according to our author, rendered *poisonous*. "It is probable," he says, "that in this and many similar instances the poor animals sometimes have their revenge. Indolent and dyspeptic individuals who partake of these diseased and poisonous productions can scarcely be supposed in all instances to assimilate them; and consequently run considerable risk of inoculating and converting their own livers or other organs into a similar mass of disease." *Leanness* must not be confounded with *emaciation*; it implies a simple absence of fat. It may result from the absolute deficiency of nutritive matter in the food, or from an accidental or natural inability to assimilate the oleaginous principle. Dr. Prout points out as one of the purposes which fat serves in the animal frame, that, during fevers and other diseases, prolonged abstinence from food is unattended with serious consequences, owing to the appropriation of the fatty tissues by the economy. Although the greater part of the adipose matter of the body has but few of the characters of a living organized substance, yet it exists in a highly organized state in the nervous and cerebral tissues, one fourth of whose solid parts is said to be oleaginous.

In the section on "cholesterine and its deposits" we find it stated, that these latter arise from, or are connected with, imperfect assimilation of the oleaginous principle, a retarded or sluggish action of the liver produced or aggravated by a full diet, by muscular inactivity, and too much sleep, with certain degrees of malarious influence in some instances. Biliary concretions are more common in females than in males. Their formation seems to depend on the separation in a solid form, of cholesterine, which exists in solution in the healthy bile. The precise mode of this separation is unknown.

The fifth chapter is devoted to the pathology of the incidental matters of organized products; these are either insoluble, as the triple phosphate of magnesia and ammonia, and the phosphate of lime; or soluble, as soda, potash, and ammonia. Hence two classes of diseases, according as the urine contains the insoluble or the soluble compounds. The triple phosphate is usually deposited as white, shining crystals, called *white gravel*; the urine containing it is usually pale, and slightly acescent when passed, but on standing, there forms upon its surface a pellicle, consisting of the salt in question. Amongst the causes of this disease are those which tend to produce nervous derangement, of which, indeed, the most prominent symptoms of phosphatic disease are only modifications. Perhaps imaginative minds may find some explanation of this in what Dr. Prout says of the proximate cause of the affection. "That the deposition of this salt,"

he remarks, "is connected with the inordinate consumption or mal-assimilation of some tissue intimately connected (I do not say *identical*) with the organic system of nerves, is evident from all its pathological relations, and more especially from its extraordinary development during excessive activity, not of growing and increasing, but of common and necessary organic operations. When the triple phosphate is deposited in large quantity, the material of this tissue (probably in a modified form) is often likewise present in the urine in large quantity." The phosphate of lime is thought by our author to be eliminated from parts having "more relation to the dermoid variety of the gelatinous tissues." The symptoms accompanying its development are of the same sort as those last noticed. In general the two insoluble salts above described are mingled in the earthy deposits of the urine, their relative proportions being varied in every possible grade.

An excess of the mixed phosphates in the urine is not commonly, says Dr. Prout, an idiopathic disease; it usually accompanies protracted affections of the bladder and prostate, and is often caused by the presence of stone in the bladder. From this it must be inferred that the urine is not phosphatic before reaching the bladder, but that it becomes so during its sojourn in that reservoir. Among the exciting causes of this disease are prominently ranked, injuries of the back, by concussions, blows, or other accidents, such as a fall from a horse. The constitutional symptoms are usually severe, and one of them is a "sensation of uneasiness, weakness, or pain in the back and loins." These symptoms certainly point to the kidneys as a source of the urinary derangement.

The diseases connected with the *soluble* incidental matters in the urine, including soda, potash, and ammonia, are next considered. The urine, in most of these diseases, is alkaliescent when passed; its odour ammoniacal, urinous, and offensive; its colour pale or reddish; its transparency affected by the presence of pus or mucus; the quantity of earthy phosphates below the healthy standard; the urea deficient; the soluble alkalies, in combination with carbonic acid, are in excess; and a large proportion of lithate of ammonia and soda is often present. The symptoms of these affections are like those accompanying an excess of phosphates in the urine; their causes also have the same analogy. The prognosis must be generally unfavourable, on account of the deep-seated and constitutional nature of these derangements.

The treatment must vary according to the particular complications in each case; yet certain general rules may be laid down. It has been urged by chemico-medical theorists, that as the diseases under consideration are accompanied by an alkaliescent or rather ammoniacal condition of the urine, a diet of vegetables, or one as free as possible from azote, should be adopted in their treatment. But experience in this case, as in many others, contradicts the conclusions of those men of science, who can see in the living organism little more than a collection of retorts and galvanic series. Vegetable diet *ought to be* the best, but *is* the worst diet in these affections; a course of generous animal food agrees by far the best with the patient. The Rhenish wines in winter, and the lighter French wines, or sound cider, or perry, in summer, are well suited to those individuals who have been used to drink wine. Indeed, fluids containing the malic acid seem to possess peculiar powers in arresting the depositions of the phosphates in some individuals. "Whatever fatigues or exhausts,



either bodily or mentally, will do mischief. Hence, absence from care, the exhilarating air of the country, and such occupations as are consistent with the patient's peculiar condition, will, perhaps, more than any thing else, contribute to the cure; particularly in those slighter and induced cases, in which the affection is not complicated with local injury." The nervous state of the system usually attending a marked deposition of the phosphates and carbonated alkalies, indicates the use of sedatives and tonics. Of the former, henbane, camphor, and opium; and of the latter, bitter diuretic decoctions and infusions, and the acidulated infusion of roses, are recommended. Dr. Prout, as we have seen, considers a deposition of the mixed phosphates to be very "unusual as an idiopathic affection," and publishes three exceptional cases as illustrative of such idiopathic deposition, &c. Of these we propose to take a passing notice. The first is the case of a gentleman who, nineteen years before, got a *fall upon his back*, which particularly affected the left side, about the region of the loins. He was three months on crutches, and every spring or summer thereafter suffered with pain in his loins. When consulting Dr. Prout he had severe enervating pains in the loins, extending round to the groin, and lower part of the abdomen. Emaciation was advancing rapidly, and there was diarrhœa. This patient recovered by using castor oil, and pills of soap and opium, with a pitch plaster to his loins: at all events, no further treatment is recorded. The second case is of a clergyman, who consulted Dr. Prout "respecting a train of very distressing symptoms, some of which evidently denoted considerable *disease of the kidneys*." Besides which, observes Dr. P. "there *appeared to me* to exist important disease of the chylopoietic viscera." And this is the substance of all we have about the case. Truly we can unite with Dr. Prout when he says, of this case, "it is to be regretted that we know so little about it, particularly its cause." The third case is of an individual, "who had for several years laboured under stricture of the urethra." He had consulted a surgeon and obtained much relief; and was in the habit of occasionally introducing a bougie himself; latterly the irritation had increased, and the urine of the patient contained carbonate of lime, mixed with a small portion of the earthy phosphates. "That this carbonate of lime was from the irritated surface of the bladder and urethra, there can be no doubt." In the first and third cases our author assigns physical and local causes for the disease; and in the second, while regretting his ignorance of its cause, emphatically states that there *was serious disease of the kidneys*. In the face of these facts we are told that the deposition of the phosphate is sometimes an *idiopathic* affection; nay, more; these facts are relied upon to prove that in the cases cited the affection *was idiopathic*. We sincerely hope that the foundation upon which the elaborate work before us is supported, is composed of materials more solid and better adapted to their important purpose. Our author, we have seen, complains of "the unphilosophical jumble" of pathological anatomists; he should not have blamed a fault in their works, which is so conspicuous in his own.

The second book treats of mechanical diseases, including those arising from obvious lesions of the kidney and bladder, and particularly from the presence of concretions in these organs. The subjects embraced by this division, it will be perceived, are amongst those with which we have been made acquainted by various medical and surgical writers, especially by MM. Rayer and Civiale. Our notice of them need not, therefore, be as

full as that we have given of the first and third parts of Dr. Prout's work, although they are, for all practical purposes, of a far more attractive class.

The hypothesis of our author concerning the mode of formation of the several varieties of renal concretions, need not detain us. The symptoms of their presence in the kidneys are pain in the loins; nausea and vomiting; retraction of the testes, and bloody urine; all of which vary exceedingly in different cases. The size of the renal concretion is not a measure of the severity of the symptoms produced by it; an individual may pass the greater part of a long life with a very large concretion in one kidney at least (sometimes even in both) without being a remarkable sufferer. The nature of the concretion may be conjectured from the fragments previously passed, and from the prevalent characters of the diathesis, as indicated by the urine. Upon the subject of treatment there is nothing new.

The second chapter relates to those diseases produced by, and liable to be confounded, or associated with calculus in the kidneys. The most prominent of these are acute and chronic inflammation.

The acute idiopathic form, Dr. Prout declares to be very rare in England; for he has "only seen two or three well marked instances, and is not able to speak with much precision of more than one case." In this opinion our author differs from Dr. Christison, who seems inclined to admit the numerous distinct divisions of M. Rayer, because they are founded upon actual inspection of the diseased organs taken together with the symptoms fairly referable to them. But of this sort of demonstration Dr. Prout does not appear to admit the force. He, nevertheless, enumerates the causes assigned by other writers, of which the most frequent are a gouty or rheumatic predisposition, and exposure to cold.

Pyelitis, or inflammation of the pelvis of the kidney, receives a brief notice from our author. It is most frequently caused by the presence of renal concretions; but it is sometimes connected "with certain cutaneous affections remotely allied to syphilis, or the oxalic acid diathesis."

Under the head of "diagnosis" some very interesting remarks are made respecting "pains in the back." These and other anomalous sensations in the same part are often complained of by patients, who are thus led to apprehend that stone or some worse affection exists in the kidneys. Many of these pains are merely "symptomatic," or muscular, and others it is not easy to explain. The following passage contains the most important details upon this subject.

"When there is acute pain of recent origin in the region of the kidneys, increased by pressure, and accompanied by severe symptomatic fever and derangement of the stomach, with scanty, high coloured, and acid urine, there is reason to suspect the presence of inflammatory action either in the kidneys or their immediate neighbourhood. When in conjunction with more or less of the above symptoms, the pain extends downwards and forwards towards the groin, and is accompanied by retraction of the testicle, and numbness in the thigh of the same side, with pain or tenderness just above the pubes, and bloody urine; there is reason to suspect the presence of calculus in the kidney or ureter. If the patient has never passed gravel of any sort; if he be subject more especially to irritable stomachic dyspepsia, accompanied by much flatulence and irregular action of the heart; if he labour under eruptions of the scaly kind, or troublesome, indolent boils; if the urine be generally transparent and of a citron tint, rather copious, and not remarkably acid, there is reason to suspect that the calculus is of the mulberry variety. If in conjunction with the usual symptoms of renal calculus the urine be found to contain the cystic oxide, the calculus will probably contain this substance. Lastly, if the constitutional irritation be unusually urgent, and the pain of a burning character; if the patient labour under cutaneous disease

about the scrotum or its neighbourhood; if the urine be pale coloured, alkaline, and abounding in the phosphates, the calculus will be most probably found to consist chiefly of the phosphate of lime."

In the treatment of nephritis in its acute form, general and local bleeding are insisted upon; the warm bath and active doses of calomel conjoined with opium, henbane, colchicum, &c., according to the severity of the symptoms; mustard cataplasms to the feet in gouty subjects; blisters after the disease has begun to yield; large emollient clysters, with or without opium; an antiphlogistic regimen; and when the functions of the kidneys begin to return, a free use of warm mucilaginous drinks; these constitute the principal means of treating simple inflammation of the kidneys. The reader is referred to M. Rayer's work for a full account of this subject.

The length which this article has already reached, obliges us unwillingly to pass without notice the chapter on the origin, increase, and treatment, of vesical calculi. The following chapter treats of diseases of the bladder and its appendages, produced by and liable to be confounded or complicated with vesical calculi. It is worthy of note, that chronic inflammation of the bladder usually precedes, instead of following the acute form, which is comparatively rare. Idiopathic catarrh of the bladder "is said to commence" suddenly, with oppression at the stomach, and relaxation of the bowels: there are occasional sharp pains, with a sense of heat in the region of the bladder, and of weight in the perineum. Later there is a constant desire to urinate, with spasm of the bladder and urethra, and a discharge of mucus; slow fever attends, and feebleness and emaciation succeed. The discharged mucus is generally tenacious, and either neutral or alkaline, while the urine itself is acid. The mucus secreted, sometimes amounts to several pints in the day, and in the advanced stages of the disease, assumes a puruloid character, or is streaked with blood. In the second stage of the disease, while the mucous membrane of the bladder is becoming disorganized, and the patient sinking, the mucus gives way to pus, and the urine becomes alkaline, has an ammoniacal odour, and effervesces with an acid: in this case there is almost always an excess of the carbonate of soda or of potash present derived immediately from "the serum of the blood." At a still later period the urine regains its acid character. "After death the urine is often alkaline in the bladder; but acid in the kidneys, provided those organs be not diseased."

Diseases of the bladder and prostate, of an *irritable* character, may result from functional derangement, or degeneration of the urinary organs; or from nervous affections of a remote or constitutional origin. When these diseases arise from functional derangement of the kidneys, they usually result from the unnatural properties of the urine. In a state of health this fluid is the natural stimulus of the urinary organs; when its properties are altered it may prove a cause of *feeling*, that is, a source of irritation to the kidneys and bladder, which in health gave no sign of its presence, except when unduly distended by it. It is stated by our author that organic diseases of the kidney are very various and frequently give rise to formidable cases of irritable bladder. After this announcement we should expect to find some distinct anatomical lesion of the kidney adduced as an example of the causes producing irritable bladder. But not so: we are indeed told that "the complaint" usually begins in the kidneys; that "the whole secreting structure of the kidney *seems to be* more or less involved;" and that "the mucous membrane lining the cavities of the kidney takes on



*a peculiar diseased action;*” and are moreover informed that the maladies in question bear some relation to those “connected with anæmotrophy,” and are derived from “an inherited cachexia of which struma constitutes one of the ingredients, and very frequently a remote syphilitic, or malignant taint another.” With such an explanation we are afraid that most readers will not distinctly recognize the “organic” renal disease which gives rise to the following symptoms.

The diseased action commences imperceptibly, and at first does not attract much of the patient’s attention. After a time the urine is found to be generally acid, of a pale greenish, whey-like colour, opalescent from the presence of flocculi, of low specific gravity, often serous, but rarely bloody. Sometimes on being heated it deposits the phosphates, but on cooling seldom separates the lithate of ammonia; though when this takes place the deposit is usually gray, instead of pink or red. The patient has a frequent and urgent desire to pass water; urination is followed by uneasiness or severe scalding pain along the urethra. The discharge is free; and in the earlier stages, there is no suffering between the periods at which the patient is called to empty his bladder. As the symptoms augment, the unnatural properties of the urine increase; the patient becomes emaciated, weak, and irritable, and although not complaining of pain in the region of the kidneys, will often, on being questioned, admit the existence of a dull, aching sensation there. The pulse gradually becomes more quick and feeble, the stomach rejects its contents, and the urine is diminished in quantity. The patient becomes more indifferent and drowsy; all food is rejected, the urine entirely suppressed, and death from coma supervenes. Occasionally a more sudden termination, with inflammatory symptoms from exposure to cold, may take place. This affection occurs in females as well as in males, in which case the symptoms are modified by an increased vascularity and tumefaction about the orifice of the urethra, which with the whole of that canal, is exquisitely irritable, and appears to the patient to be the chief seat of her suffering.

The cachexia which gives rise to these serious and generally fatal symptoms, is, according to our author, the essential element of danger in fungus hæmatodes of the bladder, “a tumour *rendered malignant*,” he says, “by being complicated with the above cachexia.” The absence too of this complication renders harmless, except by their mechanical effects, all polypous excrescences, elongations, &c. of the mucous membrane of the bladder. The result of this doctrine appears to be, that “malignancy” is considered by Dr. Prout merely as a “species” of cachexia; a proposition which does not appear to be supported by facts.

Irritable bladder may be the chronic result of thickening or other disease of the coats of the bladder, of enlargement of the prostate, and of stricture of the urethra. It is stated that gouty irritation of the urethra often assumes of the characters of gonorrhœa, with profuse discharge, and scalding in passing water. The affection could not in the greater number of cases be traced to any distinct cause: in a few instances it seemed “to have been produced by sexual excitement.” The rheumatic form of urethritis is also adverted to as marked by the same symptoms as those of the arthritic. These facts should not be forgotten by practitioners whose experience has been limited; they inculcate charity in making a diagnosis of urethral discharges. *Spasm* of the bladder, although in its origin usually of a nervous character, is yet, when of long standing, accompanied by

derangement in the quantity as well as in the properties of the urine. It may also depend upon the presence of stone or any other cause of irritation in, or near, the bladder.

Many hysterical symptoms are manifested by the urinary apparatus; or rather, hysteria simulates nearly every symptom which can be presented by disease of these organs. The following passage is both interesting and instructive:

"Innumerable instances have occurred to me in which calculi have been said to be passed from the kidneys and bladder by hysteric females. Such calculi I have examined, and found them to consist perhaps of a fragment of silix, or even of brick, in short, of any thing but what is known to be of urinary origin. Moreover, in some of these cases, a train of symptoms, resembling those accompanying nephritic attacks, have been stated to accompany the descent and exit of the calculus from the kidney and bladder. In such cases I have even seen the properties of the urine changed (I know not by what means), so as to correspond with the symptoms described; and there has been blood or mucus, or other unnatural matters, present in the secretion, as it were at the will of the patient. Hysteric females are subject, on certain rare occasions, to pass urine nearly black; and I have known this appearance kept up artificially for a long time together, by the admixture of ink with the urine. Retention of the urine is another occurrence; and the patient either cannot, or, as some suppose, *will not*, [both suppositions are probably true in different cases,] empty the bladder without mechanical assistance."

The precepts laid down by our author for investigating hysterical cases, are so judicious and important that we cannot forbear transcribing a portion of them.

"We should constantly remember," he remarks, "that the utmost duplicity and cunning may be displayed, where from mere appearances, we should expect nothing but the rigid truth; in short, that the whole energies of the patient's mind are bent upon deception, and consequently that the deception is likely to be greater, and more difficult of detection, in proportion as the patient is more highly educated, or has been more frequently seen and examined. One of the best modes of proceeding, therefore, at the outset, is to make the patient describe her own feelings in her own words; and if possible in her own handwriting. At any rate, the principal symptoms, as stated by herself, should be written down *before a single question is asked*. Indeed leading questions should be carefully shunned; for though the symptom inquired after may not be present at the time, yet the hint will be carefully treasured up in the memory; and the symptom will not fail to appear at some future time....I am most anxious not to be misunderstood. Nothing can be further from my wishes and intention than the design to convey an impression derogatory to female character. In hysteric cases both mind and body are really in a morbid state, and the patient *can scarcely be regarded in the light of an accountable being*."

Under the heads of "diagnosis and prognosis" there is an admirable recapitulation of the symptoms in the several varieties of disease last described. But we can do no more than allude to it.

The *treatment* of bladder diseases receives very ample consideration: we shall give a digest of its more important parts. Vesical catarrh and chronic disease of the prostate gland are injured by very active measures. The application of cups or leeches to the perineum is indicated by abdominal congestion, and so also are purgatives, of which calomel is, for this purpose, one of the best. In the advanced stages of these affections, counter-irritants and issues are of little use. The diet should be light, digestible, and without stimulating condiments; moderate exercise on foot, in fine weather, is proper. Three classes of specific remedies are employed in these

diseases; the balsamic, the astringent, and the sedative. Of the first class the *diosma* is the best; then follow the balsams of Peru and Tolu, the Chian turpentine, copaiba, cubebs, &c. which are often beneficial in small doses. Of the astringents the *pareira brava* should rank first; then the *uva ursi*, and the *lythrum salicaria*, or loosestrife; the two last are less useful when there is vascular activity, than they are in irritative excitement. Of sedatives there are none that can do much towards allaying the irritation of the vesical mucous membrane, without affecting the whole system. On this account the mildest of them are the best. Of all painful sensations that which is described as a *burning smarting heat*, is least amenable to the influence of the milder narcotics. The above remarks are, in the main, applicable to the treatment of irritable bladder. Chalybeate preparations are here of use during the quiescent stage of the affection; but during excitement, especially if the urine has become decidedly serous, the citrate of ammonia, either alone or combined with the fluid extract of sarsaparilla, may be given. The intolerable irritation about the urethra in females, as already described, is best relieved by cauterization. A caution is given not to use the catheter too early in hysterical retention of urine, for very often as soon as the patient begins to suffer pain she is forced to evacuate her bladder; but if recourse be had to the catheter, the natural cure is prevented, and the existence of the disease may be prolonged for an indefinite period. Yet it should be remembered that the bladder may become paralyzed by over extension, and unable to expel its contents, in which case the use of the catheter is absolutely necessary.

The chapter on hæmaturia contains an account of the *diagnosis* of hæmorrhages from the urinary apparatus. It is written with remarkable clearness, but contains very little more than may be found in the best essays upon the same subject. The author is of opinion that when hæmaturia is connected with scurvy, typhus fever, &c. it should be treated by the mineral acids conjoined with quinine, galls, the muriated tincture of iron, &c.; and when these remedies fail, resort may be had to arsenic, zinc, or lead, of which the last, in the form of the acetate, is by far the most efficient. When the hæmorrhage is so profuse that the bladder becomes rapidly distended by it, the injection of cold water into the rectum or bladder is sometimes of great use; and should these means fail, a solution of twenty to forty grains of alum in a pint of water may be injected into the bladder, with the almost certain result of stopping the bleeding even when it proceeds from malignant disease. Respecting solvents for the stone, Dr. Prout advances the opinion, "that the urine itself, when in a perfectly natural condition is one of the most universal as well as powerful solvents we possess, for its own diseased deposits." Whether this be established or not, a practical inference from it commends itself to our attention: viz. "that in all cases of urinary concretion one of the first points to be attended to is to restore the healthy condition of the urine, by improving the general health, and the local condition of the urinary organs."

The foregoing analysis may be considered complete as far as our limited space would permit; sufficiently so, perhaps, to stimulate the curiosity of those who feel an interest in studying diseases of the urinary organs, though inadequate, it must be confessed, to present a full view of Dr. Prout's treatise. This treatise was received with so much favour by the medical profession in England, that, within three years from the publication of the third edition of it, a fourth was made necessary by the increas-



ing demand. We cannot doubt, therefore, that an American issue of the work would meet with an equally favourable reception. Too much can hardly be said in its praise, as a practical essay upon a class of derangements but little studied, and less understood, although of frequent occurrence amongst us; for every inquiring student of these affections will find in its pages valuable precepts for their management, and many satisfactory explanations of the obscure and complex phenomena which usually attend them. The original genius of the author may justly be urged in extenuation of the theoretical errors, which, to some extent, mar the perfection of his work. We conceive the chief of these errors to be an attempt to build a systematic classification upon uncertain chemical hypotheses on the one hand, and mere symptomatic differences on the other. Our author has not, indeed, adopted the conclusions of other observers, who from the vantage ground first reached by himself, have, in some respects, advanced still further than their predecessor; but let it not be forgotten that Dr. Prout deserves the credit of leading the way in the investigation of renal diseases, and that we are bound to feel grateful to him for what he has accomplished, rather than blame him for adhering, somewhat tenaciously, to his early and peculiar opinions.

A. S.

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ART. XI.—*The Theory and Practice of Midwifery*. By FLEETWOOD CHURCHILL, M. D., M. R. I. A. &c. &c. *With Notes and Additions*, by ROBERT M. HUSTON, M. D., &c., with one hundred and sixteen illustrations from drawings by Bagg and others; engraved by Gilbert, 8vo. pp. 519. Philadelphia: Lea & Blanchard, 1843.

IF the student of obstetrics should not, at the present day, become well grounded in the principles and practical precepts of the art, it will not be for the want of ample and efficient guides. The elementary knowledge necessary to prepare him for becoming a skilful and successful accoucheur, is now placed fully within his reach, and so plainly and explicitly defined, and ably illustrated, that his own stupidity or indolence, can alone prevent him from becoming a perfect master of it. In nothing has the medical press, within a few years past, been more fruitful than in elementary treatises and manuals of the theory and practice of midwifery, by gentlemen of skill and experience; while ingenuity has been taxed and all the various plans of illustration have been brought into requisition to render its theoretical precepts familiar, and its practical rules plain and explicit. A very respectable library might be formed of recent works on the obstetric art, each excellent in its kind, and the whole presenting a vast body of facts, precepts, and illustrations, affording important aids to the student, in the acquisition of obstetrical knowledge, and to the practitioner, in increasing his qualifications to afford efficient aid in the hour of suffering and of peril. Among these works we should assign a very high rank to the treatise of Dr. Churchill. This gentleman is already favourably known to the medical profession of this country by his two very excellent works on the Diseases of Females—a notice of which we gave to our readers soon after their appearance. The favourable impression formed of the author in this country,

as an accurate eclectic and well informed practitioner, will in no degree be impaired by the work before us. Presenting a very faithful exposition of the present state of obstetrics, and a full analysis of the opinions and experience of its most distinguished and successful cultivators, it will quickly find its way, as a useful manual, into the hands of the students and practitioners of the art. For although it may not supersede the necessity of an intimate acquaintance with the other standard works upon the principles and practical rules of midwifery, it is, nevertheless, well adapted to facilitate the study of these, and to recall subsequently the more valuable portion of their contents.

The work is divided into three parts. The first embracing the anatomy of the pelvis and organs of generation—the second the physiology of the organs of generation—and the third, the physiology of the uterus, or parturition.

The first part treats as well of the abnormal, as of the normal, anatomy of the pelvis and of the external and internal organs of generation, and presents a faithful and succinct exposition of every important particular in respect to these subjects that is necessary to be known by the practitioner; the whole illustrated by a number of most beautiful and extremely accurate wood engravings. In regard to the normal dimensions of the pelvis and the changes produced in these by various diseases of the osseous system, Dr. Churchill has given the measurements of all the leading obstetricians. Upon every point connected with the subjects embraced in this section, there will be found a sufficient degree of minuteness; while the details throughout are clear and explicit, and the general conclusions and practical applications plain and accurate.

The second chapter of part second, treats of menstruation and of its abnormal states. On the first, the author's account is full and interesting; in relation to the pathology and treatment of the several disturbances of the menstrual function, there is perhaps more conciseness than the importance of the subject, and the many gross errors which still exist in relation to it, would seem to demand. The principal subject of the volume being, however, the theory and practice of midwifery, it is only on those subjects having an immediate bearing upon the process of gestation and parturition that we are to expect more full details. The chapters which treat of generation, conception, and utero-gestation, embrace a notice of every well established fact in relation to these curious and important points of the physiology of the human female, and as explicit a notice as is necessary of the various opinions advanced in regard to them by leading physiologists. The ensuing chapter, on the signs of pregnancy, constitutes the first link of connection between the preliminary subjects and those immediately connected with the leading object of the work—the exposition, namely, of the present state of the theory and practice of midwifery.

In every point of view, it would be important to have in our power the means of determining, by some positive and unerring sign or combination of signs, the actual existence of pregnancy, at the earliest possible period of utero-gestation, as well as to be enabled, by certain phenomena, to ascertain its period and progress. While, however, in the early stage of pregnancy, it is impossible to determine with certainty its existence, and even at a later period there is much difficulty in arriving at a positive decision—yet, by a careful attention to all the phenomena incident to utero-gestation, the experienced practitioner will seldom be deceived in regard to its exist-

ence during the last three months. Dr. Churchill examines in detail the several signs of pregnancy, and exposes with great judgment their relative value.

Even as recent a writer as Rigby refers the sensation of quickening simply to the rising of the uterus out of the pelvis. Dr. Churchill adopts the explanation of the late Dr. Fletcher, of Edinburgh, of the reason why the movements of the fœtus are felt subsequently and not before this period, as upon the whole the most probable.

"The movements of the fœtus while the uterus is in the cavity of the pelvis are not perceived, because the uterus is not supplied with nerves of sensation, and it is surrounded by parts similarly deficient; but when it arises from the pelvis, it comes in contact anteriorly with the abdominal parietes, which are liberally supplied with sensitive nerves, and which by contiguity of substance, feel the movements, and thus the woman becomes conscious of them. This view is strengthened by the fact, of which I have been repeatedly assured, that the movements, unless when violent, are felt in front only."

"These are certainly correct physiological reasons in favour of this explanation;—the absurd notion, that "the fluttering in the hypogastric region, often attended with sickness and faintness," that constitutes, in many cases, the sensation of quickening, is caused by "the *sudden* emergence of the uterus, towards the fourth month of pregnancy, from out the cavity of the pelvis," can have but few advocates at the present day.

Of the diagnosis of pregnancy—which in every point of view is an interesting and highly important subject—Dr. Churchill's conclusions are as follows:—

"The diagnosis of pregnancy in the early months must be more or less doubtful. No single sign can be relied on as conclusive; it is where two or three are present, and occur in proper sequence, that we can feel certain. For example: if a patient miss one or two (menstrual) periods, we may have grounds for suspicion, and these will be strengthened if morning sickness occur in the second month; but if to these be added enlargement of the breasts and darkening of the areola, the case will be pretty certain. In many cases, too, we may derive assistance from the character and circumstances of our patient. It is not, however, until the latter half of gestation that we obtain positive evidence, which can neither be simulated nor evaded."

We would warn the young practitioner against committing himself in deciding upon the existence or non-existence of pregnancy during the first four months, even when the presence or absence of all the usual signs appear to mark the case with the utmost certainty; we have known, more than once, the most ridiculous errors committed in this respect, and in one instance leading to very serious results. Probability may in many cases be obtained—absolute certainty, never.

In regard to the principal signs developed during the latter half of pregnancy—enlargement of the abdomen, quickening, the motions of the child, ballottement, and the results of auscultation, Dr. Churchill remarks:

"We find that while all are valuable, there is a degree of uncertainty attached to the three first which calls for a very careful estimate on our part: that the *positive* evidence of the latter modes of investigation is conclusive, but that the *negative* evidence or absence of the usual results, is no proof that the patient is not pregnant. So that, as before observed, we ought rather to depend upon the coincidence of two or more of the signs of pregnancy than attempt a diagnosis from any one alone: the only sign indeed which can be regarded as itself proving that the woman is pregnant of a living child, is the pulsation of the fœtal heart."



Of the value of *kiesteine*, as a test of pregnancy, Dr. Churchill offers no decided opinion, he merely presents the observations of Nauche, Eguisier, Montgomery, and Bird, and refers to future and more extended researches to confirm their accuracy. The results of Dr. E. K. Kane's observations made in the Philadelphia Hospital are added by Dr. Huston. The author notices, without comment, the test of Jacquemin, a violet colour, namely, of the vagina and labia. The results of Jacquemin's observations are confirmed by M. Parent Duchatelet.

The chapters on the Duration of Pregnancy, and Sterility, comprise a brief exposition of all the well established facts in relation to either subject; in his estimate of which the author exhibits his usual judgment and caution.

Dr. Churchill denies the possibility of superfœtation. After a brief review of the several facts adduced in evidence of its occurrence, he remarks:

"The real difficulties of such a theory appear insurmountable."—"Shortly after conception, the uterus is lined by the deciduous membrane, a shut sac, closely adherent to the lining membrane of the uterus throughout, and covering the orifices of the fallopian tubes; that the canal of the cervix uteri is, during pregnancy, plugged with thick tenacious mucus secreted by the gland; now, if this be the case, and if it be an essential condition of generation, that the spermatozoa pass through the fallopian tubes to the ovaries, it is evident, that the theory of superfœtation involves so much apparent physical impossibility, that it must be rejected, unless it can be shown how the spermatozoa can obtain access to the ovaries, when the uterus is, as it were, hermetically closed."

"In conclusion, I would say, 1. That the theory of superfœtation is *unnecessary* to explain the birth of a mature fœtus and blighted ovum; of a mature and immature fœtus, born together, or within a month of each other; or of fœtuses of different colours, as they may reasonably be supposed to be the product of one act of generation, or of two, nearly contemporaneous. 2. That, in cases of double uterus, it is possible for a second conception to take place, and—judging from the subsequent birth of the second child, in the only case on record—at a later period than the first. 3. That, in the remaining cases, where one mature child succeeded the birth of another after a considerable interval, we have no proof of a double uterus in any, and positive proof, in one case, it was single, and that to the explanation of these cases, no theory as yet advanced, is adequate: that of superfœtation being opposed by physical difficulties, which are insurmountable in the present state of our knowledge."

There is much force, and a great deal of good sense in these remarks of the author.

On the subjects of extra-uterine pregnancy—and on the signs of the death of the fœtus, a very admirable summary of the present state of our knowledge will be found in chapters 9 and 10. The subjects of chapter 11, are abortion and premature labour—which are treated with the usual judgment of the author. We are surprised to find him declare that, in arresting the flooding consequent upon abortion, he has not seen much benefit result from the use of acetate of lead. We have had a good deal of experience of the effects of the remedy in these cases, and must say, that it has appeared to us invariably to exert a very powerful influence in arresting the hæmorrhage—we have employed it by itself, in doses of three grains every two hours; in grain doses, combined with the third of a grain of ipecacuanha every hour, and in doses of three grains, with half a grain of opium, and the third of a grain of ipecacuanha, every three hours—and have, in no instance, been disappointed in its effects.

In addition to Dr. Churchill's remarks on the prevention of abortion, the

editor adds, that he has "succeeded in some very obstinate cases, by confining the patient to her sofa, commencing some time before the usual period of miscarriage, and continuing several weeks after the time had gone by—carefully avoiding the erect position, and all unnecessary muscular exertion, and using, at the same time, injections daily of opium, in sufficient doses to prevent uterine action—the quantity varying from two to five grains, in the state of powder, suspended in mucilage. By these means, a condition of tolerance, on the part of the uterus, is acquired, which allows gestation to go to the full term."

This we know, from experience, to be an admirable procedure. We may remark, that in some cases of threatened abortion, we have reason to believe the loss of the ovum was prevented by the application of a blister to the sacrum, upon the first appearance of symptoms indicative of an approaching miscarriage.

The chapter on abortion and premature labour closes the first two sections of Dr. Churchill's treatise. The subjects comprised in these sections are certainly treated in a very masterly manner; and notwithstanding some of the chapters may be deficient in very important details, the whole, nevertheless, constitutes one of the very best summaries with which we are acquainted; to beginners it presents a very valuable introduction to the study of the more extended treatises and monographs, while to the obstetrician busily engaged in the practice of his profession, it will be a useful remembrancer of the more important facts connected with the science, and a guide to the improvements introduced by the more recent investigators.

The remaining part of the treatise is devoted to a consideration of midwifery properly so called,—that is, parturition, with its abnormal varieties.

Dr. Churchill divides all labours into three general classes, natural, unnatural, and complex. Unnatural labour he divides into three orders. 1st, from abnormal condition of the expulsive force, including tedious labours; 2d, from abnormal condition of the passages, either obstructions from the soft parts or from distortion of the pelvis; 3rd, from abnormal condition of the child—either malposition, malpresentation, plurality of children, or monstrosity. Complex labours, include prolapse of funis, retention of placenta, flooding, convulsions, lacerations, and inversion of the uterus.

This arrangement, which is nearly the same as that followed by Merriman in his "Synopsis of difficult Parturition," merely substituting plain English names for the several classes and orders of labour in place of those adopted by Dr. Merriman, formed by a barbarous combination of Greek and Latin.

Dr. Churchill has presented a table of the relative frequency of the several fœtal presentations, in the practice of a number of distinguished obstetricians—by which it appears, that in an aggregate of 78,027 labours there were 73,647 head presentations, 1257 breech presentations, 1009 presentations of the inferior extremities, and 294 of the superior extremities.

The all-important subject of the mechanism of labour is considered in the second chapter. To this the author devotes considerable space, and very properly so—it is by his perfect acquaintance with the mechanism of parturition that the accoucheur is rendered competent to decide upon many of the more important questions connected with the condition and progress of labour; and in cases where the aid of instruments is required, it is in vain for him to attempt their application unless perfectly familiar with the

manner in which the fœtus enters and passes through the several parts of the pelvis. On every point connected with the mechanism of labour, the expositions of Dr. Churchill are perfectly clear and precise—he has adopted throughout the views of Professor Naegele of Heidelberg, which, in many particulars, differ materially from those of the generality of the French and English authorities on this subject, but we are convinced that when carefully examined they will be found to correspond very closely with what actually takes place in the major number of the cases of natural labour.

The author's description of natural labour (chapter 3) is marked by great minuteness and accuracy; we recommend it to be closely studied by every pupil of the obstetric art, and we are convinced that even the young practitioner would not find the time devoted to its attentive perusal altogether unprofitably spent. By becoming perfectly familiar with all the phenomena of natural labour he will save himself often much anxiety, and be at the same time better prepared to give prudent encouragement to his patient, "whose mental suffering in many cases equals if it do not outbalance her physical pains." He will learn, too, an important lesson, which cannot be too often enforced, "that most of the modern improvements in midwifery have resulted from a more correct appreciation of *the natural powers*; so, in the management of natural labour, the great improvement has been the absence of interference."

The following, though a plain common sense direction, we extract, in hopes that it may benefit certain inexperienced practitioners of midwifery, who often do much harm to their patients, and lay themselves open to disappointment and censure by disregarding, or rather not constantly recollecting it.

"It is very desirable to keep her (the parturient female) tranquil and cheerful, for which purpose *she should be told* of all that is favourable in her case, and all subjects calculated to depress should be avoided. In this matter much depends on the nurse, who should receive proper caution. I am satisfied, that in most, if not all cases, it is better to deal frankly with our patient, and not to make false promises in hopes of encouraging her to bear the pains. Let her be told that all is favourable, and that, *as far as we can judge*, the labour will terminate safely for herself and her child, and she will bear to be told, that she has yet some time to suffer. Moreover, as it is impossible to calculate with accuracy upon the duration of a labour, an assurance that it will be over in a certain time will, in all probability, issue in disappointment, and if so, in distrust either of our truth or skill."

The obstetrician who will wantonly trifle with the feelings of his patient, by enhancing the difficulties of her case, merely to establish for himself a character for uncommon skill, or who, ignorant of the real character of her case, will promise her "a speedy and safe deliverance from her pains" until the hour for affording her efficient assistance is almost or entirely passed, is totally incompetent to fulfil the important and responsible duties of the office he has assumed. Nevertheless, such unworthy practitioners of the obstetric art it has been our misfortune more than once to encounter.

Dr. Churchill's directions for the management of the mother and child subsequent to delivery are, in general, marked with the same good sense as those for the conducting of the labour—with the propriety of a few of his directions we cannot, however, exactly agree. Thus, immediately upon the expulsion and removal of the child he directs a bandage to be applied



firmly around the mother, embracing the hips inferiorly and the whole abdomen. It is true that he adds,

"I do not know that we can consider the binder absolutely necessary. Dr. Davis states that he has not used one for fifteen or twenty years, except in cases of flooding; it is, however, very useful at first in maintaining a certain degree of contraction of the uterus, and giving support to the abdomen, and afterwards in promoting a return to the natural condition of the uterine parietes, for which reason I think it deserving of rather more attention than is usually paid to it, at least after the first day or two. I believe that if it be duly applied during the time the patient keeps her bed, she will avoid that loose state of the integuments which gives rise to what is called 'pendulous belly.'"

We are opposed to the application of the bandage until after the expulsion of the placenta and all danger of hæmorrhage is removed by the full contraction of the uterus. We cannot conceive of any benefit that can result from the application of the bandage previous to the delivery of the secundines, to compensate for the inconveniences that may be produced by the disturbance of the patient necessary for its application. How the bandage can assist the contractions of the uterus and facilitate the expulsion of the placenta, or afford any additional security against the occurrence of internal hæmorrhage or of flooding, we cannot understand. Subsequently, however, when labour is completed the bandage affords a pleasing feeling of support to the patient, and perhaps may contribute towards a more complete retraction of the abdominal parietes. In all cases, however, the practitioner should assure himself of its proper application—the careless manner in which it is too often put on by the nurse or attendants, causes it to exert an unequal pressure upon the abdomen, from which more evil will result than if the bandage were entirely omitted.

In his direction for the management of asphyxia in new-born infants, the author advises "a proper tube" to be "introduced into the larynx, or a flexible catheter passed through the nose," for the purpose of artificially inflating the lungs. The use of the proper tube or flexible catheter is neither necessary nor proper. All that is requisite is to close the nostrils of the child with a finger and thumb, and to inflate the lungs from the mouth of the operator applied to that of the child, the latter being previously covered by a silk-handkerchief or piece of fine soft linen.

Some excellent observations and sound practical directions are contained in the next chapter (chapter 4), on "convalescence after natural labour."

We are pleased to find that the author teaches, that, the operation of the after pains is, "within certain limits, undoubtedly salutary," by preventing hæmorrhage, diminishing the size of the uterus, and expelling its contents. We trust that this will have a tendency to counteract the absurd and mischievous direction given in some of the books, and not unfrequently acted upon—namely, to "administer as soon as the patient is placed comfortably in bed a full dose of laudanum or a pill of opium and camphor, to prevent the occurrence of after pains."

The author directs the child to be applied early to the breast; "the sooner this is done the better, as the secretion and escape of the milk will be facilitated, the feverishness diminished, if not avoided, and a good nipple more easily formed than when the breasts are distended."

We copy the following observations of the author in relation to those cases in which "*the nervous shock*," which invariably occurs after labour, is very severe. They afford a very good specimen of the manner in which

the several subjects are treated by him, and at the same time recommend themselves to general attention from their importance;—the condition to which they refer being too often misunderstood, and in consequence erroneously treated.

“In these cases,” remarks Dr. Churchill, “the patient complains of great exhaustion; the senses are either unnaturally dull, or morbidly acute; the breathing is hurried, and panting, and the accordance between the respiration and circulation is broken. The aspect of the patient is that of a person in a state of collapse. The countenance is expressive of suffering, anxiety, and oppression. The pulse may be either very slow and laboured, or unusually rapid, very small, and fluttering. There are many cases, however, where the shock, though far from being so severe as in the case I have supposed, is quite sufficiently so to excite the fears of the medical attendant. Reaction is long before it occurs, or it may take place imperfectly or excessively, and the patient remains for some time in a very weak condition.

“Under proper treatment, the patient will gradually recover from this state of exhaustion or collapse, unless the shock be excessive, and then death will supervene in a few hours. I have seen several cases of this kind; in one case, the labour was tedious, but terminated naturally; two others were instrumental deliveries; but in none where a *post-mortem* examination was obtained, was there either injury or disease discovered.

“A due estimate of the nervous shock is of great importance in severe cases; for in almost every instance, the progress of the convalescence is in inverse proportion to the amount of this disturbance.

“The best remedy in these cases is opium, either in a large dose or in small and repeated ones; it not only gives the patient a chance of sleep, the best restorative of all, but even if it fail in this, the system will be quieted, the respiration rendered more equable, the pulse slower, and more natural, and the relation between these two systems restored. The exhibition of stimulants—wine or brandy and water—in moderate quantities, is necessary; but we must be careful not to exceed, or they will do mischief instead of good. The amount of stimulants given in cases of collapse should have some reference to the probable reaction, as well as to the present state of the patient. Ammonia or musk are the best medicinal stimulants, and they may be combined with the opium. The diet of the patient, when the effects of the shock have subsided, must be nutritious. It may be necessary to postpone the application of the child to the breast for some days, or even to give up suckling altogether in some cases. All that has been said already upon the necessity of perfect quiet, applies with tenfold force to these cases of extreme nervous shock.”

A very sensible note is appended by the editor, Dr. Huston, enforcing the observations of the author, from which we quote the following paragraph:—

“I have seen more than one instance in which there was reason to believe the life of the patient was sacrificed from ignorance of the condition here referred to. If the attention of the practitioner, at the time, be particularly directed to puerperal fever, he is liable to confound this exhaustion with the early stage of that disease. The cold extremities constitute the *chill*, while the haggard countenance, hurried respiration and frequent pulse, are regarded as conclusive evidence of a rapid peritonitis. Bleeding from the arm or by leeches, is the instant resort, and a few hours confirm the worst anticipations by the fatal termination, which the efforts of the attendant have but too successfully aided in producing.”

The doctor draws here no “fancy sketch”—the thing has actually occurred within our own knowledge.

Dr. Churchill's next chapter (chapter 5) is devoted to the consideration of tedious labour. Some interesting tables are presented to show, 1st, The frequency with which the duration of labour is prolonged beyond

twenty-four hours. This was found in 23,758 cases to occur in the proportion of one to thirty-six, nearly. 2dly, The relative duration of each stage, in labours of twenty-four hours and upwards, in which the delay occurred in the first stage, and the results to the mother and child. The entire number of cases included in the second table are 143. "Of these, not one of the mothers died, although in some the first stage was enormously prolonged, and but ten of the children, one of which was putrid."

"If," the author remarks, "the relative length of the stages be examined, it will be found, that it did not follow, because the first was very long, that the second should be long also; and in many cases, not included in the table, when the second stage was delayed, the first was extremely short. Thus I think that, so far as it goes, this table proves the propositions with which I started, viz. that when delay is excessive, the relative duration of the two stages is destroyed, so that they bear no steady proportion to each other; and that 'delay in the first stage involves very little if any danger, no matter how tedious it may be.'

"The nervous shock is never in proportion to the length of the first stage of labour, but of the second."

Dr. Churchill considers the causes and treatment of the delay in the first stage of labour, under the heads of, 1st. inefficient action of the uterus—from constitutional weakness, a deranged state of the digestive organs, mental depression, uterine plethora, or irritation of the os and cervix uteri, &c. 2d. Undilatable os uteri. 3d. Excess of liquor amnii. 4th. Toughness of the membranes. 5th. Premature escape of the liquor amnii. 6th. Obliquity of the uterus. Under each of these heads the practical remarks of the author are in the highest degree judicious, and admirably adapted to lead the student to correct views of the character and treatment of a class of cases which try the patience alike of the practitioner and patient—and in which the inexperienced obstetrician is very liable to be led into rash and hasty interference.

Under the first variety of tedious labour, that from inefficient action of the uterus, the author considers the effects of ergot, and the propriety and rules for its administration. From repeated trials he is prepared to bear witness to its efficacy in accelerating labour, though it is somewhat irregularly exerted; but he adds, "I have seen it do mischief." Dr. Churchill speaks of cerebral disturbance in the female, in different degrees, from a severe headache up to delirium, coma, and insensibility, follow its use. Although we have had an opportunity of witnessing the very extensive exhibition of ergot, and often in very large doses, we have never observed any of those phenomena produced by it. We have found it very frequently to excite nausea and vomiting, and when imprudently administered it is certainly very liable to destroy the child. Drs. Ramsbotham, Patterson, and Huston bear witness to its powers of *originating* uterine action;—this is contrary to our experience; we have seen it repeatedly given for this very purpose—but, invariably without effect.

The student will acquire, from the rules laid down by Dr. Churchill, in connection with the additional remarks of his able editor, a very correct knowledge of the circumstances under which the ergot may, with comparative safety, be employed as a means of accelerating labour, and those under which its employment is decidedly improper.

Dr. Churchill, after noticing the beneficial effects of bleeding in cases of rigid os uteri as originally recommended by Dr. Dewees, adds,

"Should the venesection only partially succeed, however, or in case it be not



desirable to have recourse to it, we may then try the tartar emetic, which I believe was first used in these cases by Dr. Ivory Kennedy of this city. It is an exceedingly valuable remedy, perfectly safe, and very successful. It should be given in small doses, so as to excite and keep up a state of nausea, and it may be advantageously combined with a purgative—take, for instance, the following formula.—℞. Magnes. sulph. ʒi; infus. sennæ, ʒviijss; antimon. tart., gr. iij.; syr. zingib. ʒss; M. capiat cochlearia duo omni semihorâ, vel omnia horâ.”

The sixth chapter is devoted to the consideration of powerless labour. That is, labour prolonged in the second stage from deficient uterine action. Upon this important subject the author's remarks and practical directions are extremely judicious, and marked by that prudent caution which is so important a trait in the accomplished accoucheur, and which is in no degree incompatible with promptness and decision when the true period for action has actually arrived.

The ensuing chapter treats of obstructed labour—1st. From mechanical obstruction in the soft parts—minute or imperforate os uteri; of obstruction from this cause there are but few cases upon record—carcinoma or scirrhus of the uterus; these cases are also extremely rare—narrow and undilatable vagina—tumours in the pelvis; a beautiful engraving is given to show the manner in which delivery may be obstructed by polypus uteri—diseased ovary; this is also illustrated by an engraving—vaginal cystocele; this very rare obstruction is made perfectly intelligible by an engraved illustration—calculus in the bladder; but few cases of this cause of obstruction are on record—vaginal hernia—swelling of the soft parts—imperforate hymen; of this Dr. Churchill has seen one case—rigidity of the perineum. The whole of this chapter is highly interesting—we must be permitted to copy the general rules laid down by Dr. Churchill for the conduct of such cases; they are replete with sound sense and prudence:—

“1. In no case need we interfere, when the obstacle can be overcome by the natural powers within a reasonable time. 2. That the less serious the mode of interference the better; so that, if the natural efforts are insufficient, we should endeavour to push the obstacle out of the way, to remove it; or to puncture it. 3. That if the uterine efforts be vigorous, the mere removal of the obstacle will enable them to complete the labour. 4. That in some cases, besides removing the cause of delay, it is necessary to employ extracting force; and in such cases, the less violent the operation the better; thus the vectis—if effectual—would be preferable to the forceps; the forceps to the crochet, and the crochet to the cæsarian section. 5. But in our estimate of the risk of these operations, we must not omit the time they occupy, with reference to the condition of the patient; thus the time gained by the forceps may render it more useful than the vectis. 6. When the forceps cannot be used, no false humanity should make us hesitate to destroy the child. I assume, of course, the necessity for an operation in time to save the mother; because its life is sacrificed already, and both it and the mother will be lost, if we do not terminate the labour.”

Obstructed labour from deformity of the pelvis is the subject of chapter 8;—which leads at once to the consideration of obstetric operations, (chapter 9.) In relation to the operative department of midwifery there has existed a greater amount of controversy than with respect to either of the others; and even now, upon many of the questions connected with it—the nature of the cases in which artificial assistance is demanded—the proper period for resorting to it—the nature of the assistance demanded—and the form and construction of the proper instruments—there still exists not a little discrepancy of opinion among the masters of the art. Each of the operations are examined by Dr. Churchill in detail. The induction of

premature labour, version, the use of the vectis, and of the forceps, craniotomy, the cephalotribe, and the cæsarian operation. The circumstances under which one or the other is demanded, are minutely and cautiously considered—and the rules for the performance of each are clearly and fully detailed.

The chapter on the induction of premature labour is one of the most interesting in the whole volume. The author, after presenting a brief but very satisfactory abstract of the opinions and experience of all the leading authorities upon the subject, concludes, that from the facts and testimony adduced, the three leading principles of the *morality, safety, and utility* of the operation are fully established—and then proceeds to inquire as to the cases in which it is available. On this particular Dr. Churchill has collected an interesting mass of facts, and has presented them in a manner calculated to clear it of many of the difficulties in which it is generally supposed to be involved; the objections to the operation are fairly, and we think satisfactorily answered, and we trust that our author's labours may be the means of bringing the operation into more general use—for it is unquestionably adapted, in the cases in which it may be resorted to, to save the patient much suffering and anxiety, and very frequently, to contribute to the safety of the mother and often of the child also. The author's examination of the several modes that have been proposed for the induction of premature labour, though concise, is well calculated to lead to their just appreciation.

Version or turning comes next under consideration (chapter 10). The whole of the chapter devoted to this operation is replete with valuable information. The mass of statistical and other facts the author has collected in reference to it are well calculated to lead the student to correct views in relation to its value—the cases in which it should be performed, and the proper period at which it should be resorted to. The pictorial illustrations of the manner of conducting the operation are accurate and satisfactory. The chapter concludes with a summary of the difficulties attending its performance, and the danger to the mother and child that may result from it.

The vectis or lever (chapter 11) Dr. Churchill considers may be advantageously employed in cases in which the head, having descended into the pelvic cavity, is arrested in its progress, simply by the inefficiency, not absence, of labour pains, and when the patient is beginning to show symptoms of constitutional or local disturbance; and in cases of convulsions, or other accidents occurring during labour, provided only that the pains continue. The method of operating is laid down with great clearness, and illustrated by an admirable engraving. The dangers that may result from the use of the instrument are stated aphoristically in the conclusion of the chapter.

The important subject of "the forceps" comes next under consideration (chapter 12): the invention of this instrument the author considers to be "the greatest improvement that has ever occurred in midwifery." A short history of the introduction of the instrument, and of the modifications it has undergone is first presented, followed by a brief statement of the object of the operation, and the nature of the aid afforded by the forceps. The statistics of the operation are given next, in tables showing, first, the frequency of the operation among British, French, and German practitioners; by which it appears, that among British practitioners 126 forceps cases occurred in 45,634 cases of labour, or about 1 in 362. Among the French 277 forceps cases in 44,736 cases of labour, or about 1 in 162:—and

among the Germans, 1702 forcep cases in 261,224 cases of labour, or about 1 in  $153\frac{1}{2}$ :—adding the whole together, we find 2105 forcep cases in 351,594 cases of labour, or about 1 in 167.

The next table exhibits the results of the operation to mother and child. From the whole number of forcep cases in which the result to the mother is stated, we shall find, that among the British practitioners in 302 forcep cases, 14 mothers were lost, or 1 in  $21\frac{1}{2}$ :—among the French and German practitioners, in 479 cases, 35 mothers were lost, or about 1 in  $13\frac{1}{2}$ :—whilst of the children, the British statistics give 64 lost in 296 cases, or about 1 in  $4\frac{1}{2}$ ; and foreign statistics 111 in 575 cases, or 1 in 5. The total result is, that in 781 forcep cases, 49 mothers were lost, or about 1 in 16; and in 871 cases, 175 children were born dead, or about 1 in 5.

"It will be admitted, I think," the author remarks, "that these tables exhibit British practice in a very favourable light;" "very favourable," Dr. Huston observes in a note, "if we say nothing of crochet cases."

"It would be unjust," Dr. Churchill adds, "to compare the frequency of forcep cases among the Germans and British, without recollecting the minor degree of mortality amongst the children in the practice of the former, and the very much smaller number of crochet cases. It would seem, that although the Germans use the forceps much more frequently than we do, they often thereby avoid a much more fatal operation."

The author next compares the results from the use of forceps with the results from the use of the crochet. In the latter of course *all the children are lost*, and *one in five* of the mothers; whereas, by the forceps *four out of five of the children*, and *twenty out of twenty-one* of the mothers, are saved; and "if we had more minute reports, the success would undoubtedly appear much greater."

The special advantages of the forceps are next considered, with an examination of the objections that have been made to their use. In proceeding to a review of the cases to which the forceps has been considered applicable, Dr. Churchill sets out with the following important position:

"That in no case is the forceps, or, indeed any instrument to be applied, until we are perfectly satisfied that the obstacle cannot be overcome by the natural powers with safety to the mother and child."

A rule that should be inscribed in large letters on every case of obstetrical instruments; nothing is certainly more reprehensible than to resort to instruments, in any instance, merely to shorten the labour, or as it has been stated in our hearing, "to save the mother so many hours of pain."

The proper period for operating is an important question. Upon the early resort to instrumental assistance, in the cases in which it is decided to be necessary, will in a great measure depend the safety of the child, and to a certain extent that of the mother also; we are to recollect that the Germans operate more frequently, and at an earlier period than the British, and that they have fewer crochet cases. The remarks of Dr. Churchill upon this point are short but pertinent. We believe, however, that in many cases, the safety of mother and child will be better secured by operating at even an earlier period than that advocated by the author, though as a general rule, the views expressed by him are perfectly sound.

The rules for the application of the instrument follow next in order—they are sufficiently clear and accurate, and are beautifully illustrated by engravings.

A very valuable addendum to this chapter is from the experienced and



able editor, Dr. Huston; chiefly in reference to the form and construction of the forceps intended to act upon the head at the upper strait. The instrument advocated by this gentleman is that of Siebold with certain modifications, principally in adding an inch to the length of the blades, shortening somewhat the handles, doubling the width of the fenestra, and giving a greater sweep to the second curve. The instrument is calculated in every case, to be passed along the *sides* of the pelvis. A drawing of this forceps is given.

An account and drawing is also given of a modification of the long French forceps, contrived by Professor Hodge, of the University of Pennsylvania, whose views as to the mechanical properties which are necessary to adapt the instrument to all cases of difficulty that require its application are in accordance with those of the editor.

Craniotomy; its history; the instruments employed; the object of the operation; its nature; statistics; its comparative advantages; the cases in which the operation is demanded; the period of labour when it should be performed; the mode of operating and the difficulties and dangers of the operation, are the subjects of the next (13th) chapter.

From the statistical tables, it appears that among British practitioners, there were 218 crochet cases in 47,851 cases of labour, or about 1 in 219. Among the French, 30 in 36,169, or 1 in 1,205 $\frac{2}{3}$ ; and among the Germans, 132 in 256,655 labours, or 1 in 1,944 $\frac{1}{3}$ ; forming an aggregate of 380 crochet cases in 340,675 cases, or 1 in 896 $\frac{1}{2}$ . The mortality to the mother was 52 in 251, or about 1 in 5. Its advantages over the cæsarian section are very decided; the mortality from the latter being 1 in 2 $\frac{1}{3}$  of the mothers, and 1 in 3 $\frac{1}{2}$  of the children; but it falls short, greatly, in point of advantage to the induction of premature labour, which, timely performed, may supersede the necessity for embryotomy, and from which the mortality to the mother is 1 in 50, while more than half the children are preserved.

The whole of this chapter is deserving of an attentive study on the part of the practitioner as well as of the pupil of obstetrics. When unfortunately reduced to the disagreeable necessity of resorting to it as the only means of saving the life of the mother, the pictorial illustrations furnished in the chapter before us, will afford useful aids in enabling the young obstetrician to understand the manner of performing the operation.

The cæsarian section is an important and interesting subject. In relation to the propriety and comparative advantages of the operation, a very great discrepancy of opinion exists, and among contending statements of its favourable or unfavourable results there is much difficulty of arriving at correct conclusions in relation to it. After a succinct history of the operation, Dr. Churchill proceeds to consider its objects, which are "to afford a chance of escape to the mother, and of life to her child; in cases where the child cannot be extracted through the natural passages by any means at our command; to extract the child so promptly as to afford it a chance of life, when the death of the mother has taken place suddenly, and to relieve the mother from the risk of fatal inflammation, owing to the presence of the fœtus in the abdominal cavity, acting as a foreign body. Two tables are presented, the first showing the number of successful cases on record, with the number of hours the mother was in labour, and, when mentioned, the cause of its performance. The second table shows the unsuccessful cases, with similar details. From these tables it appears that

in British and American practice, out of 43 cases, 12 mothers were saved and 32 lost, or about three-fourths; out of 41 cases where the result to the child is mentioned, 23 were saved and 18 lost; or 1 in  $2\frac{1}{3}$ . In the practice of continental obstetricians, in 371 cases 154 mothers died, or about 1 in  $2\frac{1}{3}$ . Out of 189 of the cases where the result to the child is given, 50 were lost, or nearly one-fourth. Taking the aggregate of all these cases, we have 414 in which the cæsarian operation was performed, 229 mothers saved, and 186 lost, or about 1 in  $2\frac{1}{3}$ ; and out of 230 of the children thus delivered, 162 were saved, and 68 lost, or about 1 in  $3\frac{1}{3}$ .

The conclusions of the author in relation to the operation are extremely sound.

"It does," he remarks, "afford a chance to both mother and child, and, therefore, we may be justified in having recourse to it; but, as the danger is much greater than from any other operation, we should not be warranted in performing it, if there were a prospect of success by any other means. This, then, constitutes the *sole advantage* of the operation, that in cases where we cannot deliver the patient by any other means, and when, consequently, both mother and child would inevitably die, if left unaided, we may afford each a chance, by performing the cæsarian section."

Symphyseotomy (chapter 15) he considers as under no circumstances either advantageous or proper.

Malpositions and malpresentations are the subject of chapter 16. Face presentations, according to the tables given by Dr. Churchill of the British, French, and German practice, occurred 626 times in 129,489 cases of labour, or 1 in  $206\frac{2}{3}$  cases. In 344 cases of which the results are given, 248 were delivered naturally, and 77 required artificial assistance; viz. 42 version, 20 forceps, and 15 craniotomy. In 150 cases, 3 of the females died, or 1 in 50; and of 216 children, 14 were lost, and 15 destroyed, or about 1 in 7. The author recommends that no assistance be given in this form of malposition, unless there should be a disproportion between the size of the head and the pelvis, or the pains should become insufficient, or accidental complications occur; then if within reach, the forceps will probably be the best instrument. Three engravings are given illustrative of face presentations.

The forehead towards the arch of the pubis. From the statistics given, it appears that this malposition occurred 72 times in 23,050 cases of labour, or about 1 in 320 cases. In 22 cases, 9 of the children were lost. There is nothing to be done unless under the same circumstances as require assistance in face presentations, where the forceps will become necessary; a pictorial illustration is given of this malposition.

Of the malpresentations, that of the breech occurred 1 in  $53\frac{1}{3}$  cases; of the inferior extremities, 1 in  $90\frac{1}{3}$ ; of the superior extremities, 1 in  $261\frac{2}{3}$  cases of labour. In 598 cases of breech presentation, 177 children were lost, or 1 in  $3\frac{1}{3}$ . In 537 presentations of the inferior extremities, 205 of the children were lost, or about 1 in  $2\frac{1}{3}$ . In 240 presentations of the superior extremities, 125 of the children were lost, or about 1 in 9. These several malpresentations are illustrated by eight engravings.

The description, diagnosis, and practical rules for the management of the presentations enumerated that are given in the chapter before us, are marked by the author's usual accuracy, clearness and judgment. From a careful study, correct views of their nature, phenomena and management cannot fail to be acquired.

The chapter closes with a consideration of compound presentations; the hand or arm, and head, or the feet and hands; with pictorial illustrations.

Plural births are treated of next (chapter 17). We learn from the statistics furnished by the author, that in 161,042 cases of labour occurring in Great Britain, 2,477, or about 1 in 69 were cases of twins, and 35 of triplets, or 1 in 4,473; in 36,570 cases occurring in France, 332 or about 1 in 110 were cases of twins, and 6 of triplets, or 1 in 6,095. In 251,386 cases occurring in Germany, 2967 or about 1 in 84 were cases of twins, and 35 of triplets, or 1 in 7,185 nearly. Adding all these numbers together, we have in 448,998 cases, 5,776 of twins, or 1 in  $77\frac{3}{4}$ ; and 77 of triplets, or 1 in 5,831. In 697 cases of twins, 1,394 children, 417 were lost, or about 1 in  $3\frac{1}{2}$ ; and of twelve cases of triplets, 36 children, 11 were lost, or 1 in 3. Tables are also given of the sexes and presentations in twin cases.

The directions of Dr. Churchill for the management of twin and triplet cases are clear and judicious.

Some excellent remarks will be found also in this chapter, on cases of fœtal monstrosity, with directions for their management; one illustration is given.

Prolapse of the funis umbilicalis (chapter 18) occurred 401 times in 98,512 cases of labour, or about 1 in  $245\frac{1}{2}$ . In 355 cases, 220 of the children were lost, or more than one half; a larger mortality, Dr. Churchill remarks, than we find in any other order of *practicable* labour.

The various plans of treatment proposed by different writers are passed in review and an estimate given of the practicability and advantage of each. The mode of operation in these cases will, however, in a great measure depend upon the particular circumstances of each case.

Retained placenta (chapter 19) is but a relative term; different authorities giving a different period, as that during which it is proper to wait for the expulsion of the placenta by the natural efforts of the uterus, before any attempt is made to expedite its delivery, or to remove it by the hand; consequently the statistics of this form of complex labour are of little value. The rule given by the author in regard to the delivery of the placenta, is an admirable one, and if generally acted upon, would save the patient from any danger resulting from premature and rash interference on the one hand, or from hemorrhage or the risk of uterine phlebitis on the other. It is this:

“We do not interfere when the uterus is adequate to the expulsion, but when we are convinced that its efforts are suspended or inadequate, we extract it to avoid the risk of hemorrhage or inflammation of the uterus.”

The treatment will depend in a great degree upon the cause of retention; and will be found clearly laid down in the chapter under consideration.

Flooding (chapter 20): this is an important subject, and as such has received its full share of attention on the part of our author. In 68,962 cases of labour, flooding it appears occurred 424 times, or about 1 in  $162\frac{1}{2}$ . In 537 cases, 97 mothers, or about 1 in  $5\frac{1}{2}$  were lost. In 443 cases, 109 of the children, or 1 in 4 nearly, were lost.

The cause of accidental hæmorrhage, that is, where the placenta is in its ordinary situation, is the separation of some portion of it from the womb, and the laceration of its vessels. The exciting causes, the symptoms, diagnosis, and treatment are very fully and clearly stated.

Unavoidable hæmorrhage results from the implantation of the placenta



over the os uteri, or at the cervix uteri. The symptoms, diagnosis and treatment are given with equal fulness and clearness.

Hæmorrhage after delivery receives a short notice at the close of the chapter.

Convulsions forms the subject of chapter 21. Dr. Churchill divides convulsions, as they occur during gestation, or immediately before, during, or after parturition, into the *hysteric*, the *epileptic*, and the *apoplectic*.

Of puerperal convulsions there occurred 159 cases in 96,903 labours, or 1 in about 609. In 152 cases of convulsions, 42 mothers were lost, or more than a fourth. The great majority of the cases on record occurred in first labours.

Dr. Churchill has presented a very able account of the causes, symptoms, termination, pathology, diagnosis and treatment of the two forms of puerperal convulsions, the epileptic and apoplectic, with a copious reference to the opinions and experience of the leading writers on the subject.

Rupture of the uterus and vaginal, vesico-vaginal and recto-vaginal fistula, and laceration of the perineum come under consideration in chapter 22.

Rupture of the uterus occurred 65 times in 42,768 patients, or about 1 in 657. In 75 cases it occurred 9 times in the 1st pregnancy, 14 in the 2d, 13 in the 3d, and 37 times in the 4th or subsequent pregnancies. In 68 cases the accident proved fatal to the mother in all but six.

The author presents a very interesting account of the causes of ruptured uterus; his account of its pathology, symptoms, terminations, diagnosis and treatment is also admirably calculated to lead to correct views.

The other subjects of this chapter receive from Dr. Churchill that attentive consideration which their importance demands.

Inversion of the uterus is the subject of the ensuing chapter (23d); and the remaining four chapters are devoted to a consideration of the principal diseases of the puerperal state, puerperal fever, phlegmasia dolens, puerperal mania, and ephemeral fever; all of which are treated in the same clear, cautious, and able manner which distinguishes every portion of the volume before us; we are acquainted, indeed, with no work better calculated to induct the pupil into a knowledge of these respective subjects, or in fact, of all the subjects it comprises, and to prepare him for the study of the standard treatises on the nature and management of the several accidents of the parturient and puerperal states, and the theory and practice of midwifery generally; while the practitioner will find it a useful volume for almost daily reference. Forming as it does a kind of analytical index to the various facts and observations on each of the subjects of which it treats, and presenting a very fair comparative view of the opinions and experience of the great masters of the obstetric art; with a variety of interesting and valuable matters, derived from numerous sources, and these often of difficult access; the volume of Dr. Churchill will, we are convinced, obtain not merely a place in the library of every physician engaged in the practice of midwifery, but will lie constantly upon his table ready for frequent reference.

The notes and addenda of Dr. Huston are in general, valuable, and invariably constitute a useful addition to the work.

We have already referred more than once to the pictorial illustrations; these are really beautiful as works of art, and give to the student a correct idea of the descriptions in the text, which, notwithstanding they are throughout remarkably clear and explicit, would, to the beginner, without

the illustrative engravings, convey but indistinct ideas of the subjects to which they refer.

D. F. C.

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ART. XII.—*Principles of Human Physiology, with their chief applications to Pathology, Hygiene, and Forensic Medicine. Especially designed for the use of Students. With over one hundred illustrations.* By WILLIAM B. CARPENTER, M. D. &c. First American edition, with additions by the author, and notes and additions, by MEREDITH CLYMER, M. D., &c.: 8vo. pp. 618. Philadelphia: Lea & Blanchard, 1843.

THE rapid multiplication of treatises on physiology, within a few years past, is an unquestionable evidence of the increased attention which the science has received of late, more especially on the part of the medical profession, and of its acknowledged importance as the only foundation upon which can be built a correct theory of the nature and causes of the morbid changes that occur in the functions and organization of the human body. How far "the making of many books" is calculated to increase our acquaintance with the true principles of physiology is a question with which we have at present nothing to do, our only duty, as reviewers, being to examine into the merits of the several treatises as they successively appear. New works on physiology would, however, seem to be more frequently demanded than upon almost any other of the natural sciences. Its cultivators commenced to theorize long before they learned to observe, and hence every new accession of facts, or of supposed facts, was made the excuse for the erection of a new theory, which was scarcely announced before it required to be modified by the results of more recent discoveries—and even now, the rapid progress of the science, and the numbers actively engaged in its cultivation, demands, that at short intervals, a careful collation should be made of the established facts with the conclusions based upon them; while improvements in the arrangement of the materials already in our possession, and in the manner of teaching the principles of the science unquestionably call also for repeated new publications in relation to it.

The work of Dr. Carpenter is among the latest that has appeared; and though its pretensions are less than many of those that have immediately preceded it, it appears to us to be well calculated to communicate to the student clear and accurate views of the principles and leading facts of human physiology. It is "sufficiently elevated in character" to represent the present condition of the science—"sufficiently compendious" for the limited time at the disposal of most students, and "sufficiently practical in its tendency" to lead its readers to the useful application of the facts and principles it places before them.

We fully agree with the author that the present treatise presents a very fair digest of the latest and most satisfactory information on the subject of which it treats. His endeavour has evidently been "to bring together the valuable facts and principles, scattered through the best of the numerous monographs, that have recently been published on special divisions of physiology and medicine; and to reduce these *dissecta membra* to that

systematic form, which they can only be made rightly to assume when brought into relation to each other, and shown to be subservient to principles of still higher generality.” In these endeavours, the author has certainly been very successful—and hence the work is not to be viewed as a mere compilation from preceding treatises, but rather as an original digest of the established facts and principles of physiological science.

The author lays claim to some degree of originality in regard to many of the facts and deductions contained in the volume before us—but especially in relation to the views he has expressed with respect to the relations of instinct and intelligence, and to the location of the former in the ganglia of special sensation;—and to those which relate to the respective functions of fibrin, albumen, and gelatin, as well as to other subjects treated of in the chapter on nutrition. The value of Dr. Carpenter’s views on these several points must be tested by future observations.

Our intention, on the present occasion, is not to enter into an examination of the accuracy of the facts or of the various deductions advanced in the treatise of Dr. Carpenter—but rather, to give to our readers some idea of the general character of the work, and of its adaptedness to indoctrinate the student into the principles of human physiology.

The volume is divided into fourteen chapters, which treat respectively of the place of man in the scale of being—of the functions generally, and then of the functions of the nervous system—of sensation and the organs of the senses; of muscular contractility; of voice and speech; influence of the nervous system on the organic functions; of digestion and nutritive absorption; of the circulation; of respiration; of nutrition and of secretion. Then follows a general review of the nutritive process, and the volume closes with an account of reproduction.

On the propriety of this arrangement, which appears to us particularly defective, it is perhaps unnecessary to offer any comment. So intimately connected is each of the systems of organs entering into the composition of the human frame with nearly all the others, that there is some difficulty, in investigating their functions, to determine which it is the most proper and convenient to begin with.

The volume commences with some very sensible remarks upon the connection of physiology with other branches of medicine. The remarks, however, are only general in their character—their applicability to particular cases is developed, as the different vital functions are respectively examined.

The first chapter—embracing the distinction between animals and plants, the general subdivisions of the animal kingdom, with the general characters of each division; of the subdivisions of the vertebrata, and of the subdivisions of the mammalia class of the vertebrata with a general view of their characteristics, forms a very useful and philosophical introduction to the study of the special physiology of the human being.

This latter is introduced by a general view of the vital functions. We quote from this chapter the following passage, in which a position is laid down of much importance in pathology, and although every day becoming more and more fully recognized, is nevertheless not unfrequently still entirely lost sight of, in reasoning upon the nature and character of disease, and the proper therapeutical measures for its removal.

“The activity of a living being, being dependent upon two sets of conditions, the organized structure which it possesses, and the stimuli to which this is ex-



posed, we can scarcely separate from our notion of an organized structure, that of the peculiar properties which it possesses; for we never see an organized structure remaining as such, unless it possess some degree of vitality. It may be said, that, when an animal or plant is killed by a strong electric shock, its organization is unaffected, yet its vital properties are destroyed. Yet no proof of such an operation, which is contrary to all analogy, has ever been afforded. In no other circumstances do we ever witness the departure of vitality, without some change of structure or of composition which can be made evident. In the ordinary *death* of an animal, we may commonly trace the action of the morbid cause upon some particular organ, whose function is thereby either suspended or perverted; and the cessation of the whole train of actions necessarily results, if this organ be one of those essentially concerned in them. Thus, to take a not uncommon case, a patient with tubercular deposition, nearly filling both lungs, becomes the subject of an ulceration, which suddenly opens a passage from one of the bronchiæ to the pleural cavity on one side; death from this cause is frequently almost instantaneous, from the total incapacity of the other lung to maintain by itself those respiratory actions, which are necessary to the continuance of the circulation. Take again, for example, the influence of a narcotic poison; it occasions torpidity, first of the brain, and then of the medulla oblongata. So long as its action is confined to the brain, the general train of vital operations is no more disturbed than it is in profound sleep; but as soon as it affects the medulla oblongata, the respiratory movements become paralyzed (from causes to be hereafter explained) and the circulation is soon brought to a stand; and every organ in the body speedily loses its characteristic properties, by the commencement of chemical changes in its composition. But, if the respiration be artificially sustained, the circulation will continue, and all the processes of nutrition, secretion, &c. to which it is subservient, will be performed with little interruption. Hence, the cessation of the whole train, which would otherwise ensue, and the loss of vitality of the general structure, are due to the local change produced by the morbid cause; and the same may be traced, although not always so evidently, in a variety of other instances."

The remarks made by Dr. Carpenter on the dependence of the operations of mind upon the size and condition of its material instruments, though concise, are particularly pertinent and conclusive. In fact, the whole of this chapter is replete with interest, and affords one of the best general views of the vital functions of the human organism we are acquainted with, and is admirably adapted to prepare the way for their separate and more minute study.

The author's account of the elementary structure and functions of the nervous system, is extremely clear, and corresponds with the results of the latest observations. The section devoted to the comparative anatomy and physiology of the nervous system, is one of a highly interesting character, and cannot be too attentively studied, affording as it does important data for the elucidation of the functions of the nervous system in man.

A very full account is given of the nervous system of the vertebrata. The observations of the author upon the functions of the spinal cord will be found to throw considerable light upon certainly, to the student at least, one of the most complex and difficult parts of physiology.

"The influence of the spinal cord and of its system of nerves, on the movements of respiration, affords an excellent example of the importance of this organ as supplying the conditions immediately requisite for the maintenance of the organic functions. We have seen that, strictly speaking, the act of respiration, as we commonly understand it, is not respiration itself; for, *this* consists in the interchange of ingredients between the blood and the surrounding medium, which is effected in the air cells of the lungs, and which takes place in the lower animals (as in plants) without any muscular effort. But in proportion to the necessity for the energetic exercise of this function, do we find a special

provision in the higher classes for the constant renewal of that portion of the surrounding medium, which is in contact with the aerating surface; and this comes to be so necessary, that asphyxia might be produced, without any interruption to the ingress of air through the trachea, by merely breaking the circle of nervous action through which the movements of respiration are effected. It is an interesting circumstance, however, which shows the provision made in the animal frame to meet its necessities; that a very small portion only of the nervous centres is involved in the action; and that, even in the highest animals, all the rest may be removed, or may be rendered functionally inactive without checking it. This fact, which was ascertained by Legallois, harmonizes well with that which comparative anatomy has brought under our notice; for it has been shown that, in the lowest group of mollusca, but a single ganglion exists; and that this is almost exclusively concerned in regulating the entrance and exit of the currents of water, the most constant office of which is the aeration of the blood."

The influence of the spinal cord in respect to the functions of deglutition and defecation are clearly explained; and with a brief consideration of the protective agency, generally, of the spinal cord, closes the account of its reflex action. The whole is calculated to give to the student a very clear idea of a function of the nervous system, for our knowledge of which we are entirely indebted to the labours of modern and very recent observers. Some judicious remarks are made at the close of the several sections devoted to the examination of this function, upon the leading pathological doctrines which have been developed in it.

The comparative anatomy of the encephalon introduces the reader to the history of its functions; commencing with those of the cephalic nerves. The physiology of the nerves of the sense of smelling, seeing and hearing is given with the author's usual clearness. In regard to the sense of taste, Dr. Carpenter concludes that both the glosso-pharyngeal nerve and the lingual branch of the fifth pair are concerned in it.

"Considering," he remarks, "how nearly allied is the sense of taste to that of touch, and bearing in mind the respective distribution of these two nerves, it does not seem difficult to arrive at the conclusion, that both nerves are concerned in this function; but there seems good reason to believe the glosso-pharyngeal to be exclusively that through which the impressions made by disagreeable substances taken into the mouth are propagated to the medulla oblongata, so as to produce nausea, and to excite efforts to vomit."

An interesting inquiry follows in relation to the much disputed subject, the functions of the par vagum. In regard to its trunk, the author remarks, it must be considered as a nerve of double endowments, conveying to the medulla oblongata the impression produced by venous blood in the capillaries of the lungs, or of carbonic acid in the air cells; which impression may give rise to the respiratory movements, without producing sensation; but, if it be from any cause stronger than usual, the sense of uneasiness which it occasions is very distressing. "Besides the pulmonary impressions, this nerve also conveys to the medulla oblongata those which originate in the mucous surface of the larynx, trachea, and bronchi, as well as those on the lower part of the œsophagus, and on the walls of the stomach. The purpose of these is to stimulate various movements which are performed through the motor portion of the trunk; this excites the actions of the muscles of the pharynx and larynx, of the œsophagus, and in some degree, of the stomach and respiratory tubes."

The influence of a section of both of these nerves upon respiration, is shown to arise from the diminished frequency of the respiratory movements, preventing a sufficient quantity of air being introduced into the

lungs for the due aeration of the blood; and this, according to an established principle in physiology, suspends to a certain extent the circulation of blood in the pulmonary capillaries.

"The congestion of the vessels, induced by insufficient aeration, satisfactorily accounts, not only for the effusion of serum, but also for the tendency to pass into the inflammatory condition sometimes presented by the lungs, as by other organs similarly affected."

Hence, although these nerves are not immediately concerned in the special function of the lungs, they indirectly contribute to its regular and perfect performance. These views are almost exclusively founded upon the very interesting experiments and observations of Dr. Reid.

It appears to be settled by the experiments of Dr. Reid, that the secretion of gastric juice is not, as asserted by Wilson Philip, and subsequent experimenters, dependent on nervous influence supplied by the par vagum, though doubtless in part regulated by it: a position which we advanced and attempted to prove as early as 1818. Neither does it appear that the muscular motions of the stomach are entirely dependent on, though probably in some degree influenced by the par vagum. The entire offices of the nerve, so far as the stomach is concerned, have not as yet, however, been satisfactorily determined. Its influence over the actions of the heart is still involved in obscurity.

In treating of the motor nerves of the orbit, Dr. Carpenter notices the action of the muscles inserted into the ball of the eye. The proper action of the superior oblique, which has been a matter of some dispute, he considers to be to draw the pupil downwards, and a little outwards. This theory of its action, which would be inferred from the manner in which its tendon is inserted, is borne out by experiments both upon the muscle and the nerve which supplies it.

The functions of the encephalon come next under consideration. The author commences this division of his subject with a most interesting inquiry into the special function of the ganglionic enlargements at the upper end of the medulla oblongata; which, with the tracts of gray matter, he considers as subservient to the instinctive actions that are prompted by sensation, but in which there is no indication of volition; and hence that in every nervous trunk there exists at least three sets of fibres, one for reflex actions, another for the instinctive and emotional, and a third for volition. There seems much probability in the suggestions of the author, which are in harmony with what we know of the physiological constitution, so to speak, of the nervous system, and removes some difficulties which have always stood in the way of a satisfactory explanation of the psychical endowments of many of the lower order of animals, and the instinctive actions of man.

In regard to the functions of the cerebellum, Dr. Carpenter appears inclined to adopt the views of Flourens and others, as well as, to a certain extent, those of the phrenological school. After a very fair and impartial view of the experiments and pathological facts adduced in support of the opinion which attributes to the cerebellum the office solely of regulator of the motor function, and the arguments adduced, on the other hand, to prove that it is entirely devoted to the sexual instinct; Dr. Carpenter concludes as follows:—

"The author is far from denying *in toto* that any peculiar connection exists between the cerebellum and the genital system; but if the evidence at present



adduced in support of the phrenological position be held sufficient to establish it, in defiance of so many opposing considerations, we must bid adieu to all safe reasoning in physiology. The weight of testimony appears to him to be quite decided in regard to the connection of the cerebellum with the regulation of the motor function. How far this invalidates the *moderate* phrenological view, which does not regard the function of the cerebellum as *exclusively* devoted to the sexual instinct, is a question well deserving of attention. There is nothing opposed to such an idea in the results of the experiments already adverted to; since there is no evidence that sexual instinct remained after the removal of the cerebellum; but, on the other hand, there is no proof that it was destroyed. A circumstance which has been several times mentioned to him, that great application to gymnastic exercises diminishes for a time the sexual vigour, and even totally suspends desire; seems worthy of consideration in reference to such a view. If the cerebellum be really connected with both kinds of functions, it does not seem unreasonable, that the excessive employment of it upon one should diminish its energy in regard to the other. Further, it would seem by no means improbable, that the lobes are specially connected with the *regulation and co-ordination of movements*; whilst the *vermiform processes*, which are very large in many animals in which the former scarcely present themselves, are the parts concerned in the *sexual function*. As an additional argument in favour of the former part of this view, it may be stated, that in man the lobes bear a larger proportion to the vermiform processes than in any other animal; and that they undergo their most rapid development during the first few years of life, when a large number of complex voluntary movements are being learned by experience, and associated by means of the muscular sensations accompanying them; whilst in those animals which have, immediately after birth, the power of regulating their voluntary movements, for definite objects, with the greatest precision, the cerebellum is more fully developed at the time of birth. In both instances it is well formed, and in active operation, so far as can be judged by the amount of circulation through it, long before the sexual instinct manifests itself in any perceptible degree."

The functions of the cerebrum are next considered. Dr. Carpenter inquires first, what may be considered as firmly established in relation to its offices. Which is, that it is the sole instrument of *intelligence*, by which term is implied, the voluntary adaptation of means to ends, in a manner implying a perception of the nature of both:—that it is the organ through which all those impressions are received, which give rise to *voluntary* actions, and that it affords the power of occasioning muscular contraction in obedience to the influence of the will. It is probably the sole organ that ideas of notions of surrounding objects are acquired, and that it is by it these ideas are made the groundwork of mental operations. It would seem, also, to be the exclusive seat of memory.

The remarks of Dr. Carpenter upon the cerebral functions, are marked throughout by all that philosophical candour and caution which are so essential to arriving at correct conclusions on subjects, which, like that of the proper office of the cerebrum, have been and are still the subject of considerable diversity of opinion, and in relation to which hypotheses the most opposite have been advanced, with great confidence, by the most distinguished physiologists. The author appears to favour the idea of the brain being a congeries of organs, each appropriated to a distinct function, but is not prepared to adopt, as certainly correct, the location of these organs adopted by phrenologists; nor as positively established all the general principles which they have advanced.

"Without," he remarks, "wishing to set himself up as an opponent to phrenology, he perfectly agrees with Dr. Holland in thinking, that an impartial view of it requires 'not that the doctrine should be put aside altogether, but that great

abatement should be made of its pretensions as a system.' In particular, he thinks that those who pursue it are bound to make themselves first acquainted with what can be established as the general functions of the brain, before descending to particulars."

The following tabular view is presented of the nervous centres.

|                                                                                                                                                                              |                                                                                                                                                                                              |                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CEREBRAL GANGLIA,<br>the centres of the operations<br>of intelligence and will.                                                                                              |                                                                                                                                                                                              |                                                                                                                                                                              |
| NERVES of special sensation.—Motor fibres mingled with general motor system.                                                                                                 | GANGLIA OF SPECIAL SENSE,<br>the centres of consensual, instinctive, and emotional actions.                                                                                                  | NERVES of special sensation.—Motor fibres mingled with general motor system.                                                                                                 |
| CEREBELLIC GANGLIA,<br>for harmonization of general muscular actions.                                                                                                        |                                                                                                                                                                                              |                                                                                                                                                                              |
| Afferent and Motor NERVES of Respiration, Deglutition, &c.                                                                                                                   | RESPIRATORY and STOMATO-GASTRIC GANGLIA.                                                                                                                                                     | Afferent and Motor NERVES of Respiration, Deglutition, &c.                                                                                                                   |
| Trunks of SPINAL NERVES, composed of fibres from true Spinal Cord, and from Cerebrum, Cerebellum, and Medulla Oblongata; each group containing afferent and efferent fibres. | Fibrous structure, continuous with Brain.<br>True SPINAL CORD, consisting of chain of ganglia, for Reflex actions of the trunk and extremities.<br>Fibrous Structure, continuous with Brain. | Trunks of SPINAL NERVES, composed of fibres from true Spinal Cord, and from Cerebrum, Cerebellum, and Medulla Oblongata; each group containing afferent and efferent fibres. |

The whole of the author's remarks on the functions of these several nervous centres are marked by great clearness, and we believe are calculated to lead the student to a more correct general knowledge of the complex structure of the nervous system, than he can acquire from any other source. With the correctness of many of the deductions of Dr. Carpenter we are not prepared to agree. There are few of them, however, that are not marked with great probability, and the whole are advanced with a degree of candour, which we are persuaded, will command for them a more close examination than if they had been asserted with a greater degree of dogmatism. To every well established fact in connection with the subject he has given all the attention and all the prominence it deserves.

Chapter four, the several sections of which are devoted to a consideration of sensation in general, and to the organs of the special senses, touch, taste, smell, vision, and hearing, is one of the most satisfactory in the whole volume. Every physiological fact and well established principle in relation to each sense is fairly stated, and in that clear and explicit manner, so essential to the successful teaching of scientific subjects generally.

The subject of muscular contractility, according to the arrangement adopted by the author, is the next in order. The minute structure of muscle is examined with considerable care, and that of man compared with those of the lower animals, especially of the vertebrata. The subject, intricate in itself, is rendered more easy of comprehension by numerous pictorial illustrations. The proper physiology of the muscles is treated with the author's usual precision; well established facts and deductions are clearly stated, and all hypothetical disquisitions carefully avoided.

The true theory of voice, according to Dr. Carpenter may be now considered as fully established, in regard at least to this essential particular—that the *sound*, namely, is the result of the vibrations of the vocal ligaments, which take place according to the same laws with those of metallic or other elastic tongues; and that the pitch of the notes is chiefly governed by the tension of these laminæ. With respect, however, to the modifications produced in the tones by the shape of the air passages, both above and below the larynx; by the force of the blast, and by other concurrent circumstances, little is certainly known.

The whole subject is very ably treated, the author following chiefly the views contained in the paper of Mr. Willis in the 'Transactions of the Cambridge Philosophical Society, and the fourth book of Müller's Physiology. Of the physiology of articulate sounds, a very short account is given, but perhaps sufficiently long to give to the student an idea of the few leading facts known in relation to it. The subject of vocal sounds in general, whether in reference to language or music, is legitimately within the province of physiology, though altogether out of place in an elementary treatise.

The influence of the nervous system on the organic functions is a subject of great interest, and one upon which there exists a very considerable diversity of opinion. Of the dependence of the muscles of organic life upon nervous influence there can exist but little doubt, and of the latter being concerned, either immediately or remotely, in providing the conditions under which alone the organic functions can be performed, is unquestionably an established physiological fact; but in what manner, or to how great an extent, the functions of circulation, respiration, digestion, nutrition and secretion are dependent upon nervous influence may be considered as questions still undecided.

The views of Dr. Carpenter in relation to the sympathetic system of nerves, which are the special nerves of the organic functions, are mainly identical with those advocated by Müller. That the sympathetic nerves namely, are composed of cerebro-spinal filaments, and a system of gray fibres, which, in all probability, have an immediate action upon the molecular changes which constitute the functions of nutrition, secretion, &c.

"It is only necessary," the author remarks, "to suppose that the white fibres of the sympathetic nerve terminate in the true spinal cord, (which is not itself a centre of sensation), without proceeding to the brain, to have an explanation of the absence of sensory endowments in the organs to which they are distributed, and of the complete removal of the muscles supplied by their motor nerves, from voluntary control. That a few fibres, of which the actions cannot be excited under ordinary circumstances, pass on to the brain, would seem probable, from the fact of the sensibility of some parts in disease, which are totally insensible in their normal condition."

In regard to the supposed sympathetic action of the so termed sympathetic nerve, Dr. Carpenter observes:—



"It appears, that it may be stated as a general proposition, that all the evident movements which can be excited by irritation, applied to one part of the body, in the contractile organs or tissues of another, are really affected through the true spinal cord, whether the contractile organ be a powerful muscle, or a thin and feeble layer of fibres around a blood-vessel or duct. Upon the reasons why the fibres of the visceral nerves should be so peculiarly separated from the rest, we can at present only speculate; but it may not be considered improbable that, by their peculiar plexiform arrangement in the various ganglia through which they pass, connections are established between remote organs, which tend to bring their actions into closer relation with each other than would otherwise be the case. The existence of such connections, for the purpose of harmonizing the several movements of the viscera which are concerned in the various and complex operations of digestion and its attendant processes, may be inferred from the perfect conformity which exists between them, during all their different states of regular action; and still more, perhaps, from the phenomena of their disordered conditions."

Dr. Carpenter considers that we have no valid reason to believe that any of the processes of nutrition and secretion are dependent upon any kind or degree of nervous agency. These processes, he remarks, go on with great rapidity and energy in the vegetable kingdom, in which nothing approaching to a nervous system exists, and in the animal kingdom they take place with equal vigour long before the least vestige of it appears. Moreover, there is abundant evidence that secretion may take place after the death of the general system, through the persistence of certain molecular changes, of which the essential conditions are not immediately altered; and the growth of the beard, which has also been occasionally observed, indicates that even nutrition may continue to a certain degree.

The author, however, admits as indisputable, that many of the organic functions *are directly influenced* by the nervous system; but that this influence, exerted sometimes in exciting, sometimes in checking, and sometimes in otherwise modifying them, is rather a directing or controlling influence than one essential to the performance of the functions referred to, and "may well be compared to that which the hand and heel of the rider have upon his horse, or the engine driver exerts over a locomotive."

This controlling or directing influence of the nervous system upon certain of the organic functions is examined in detail—as it is exerted in depressing or exciting their action.

The consideration of the organic functions commences with those of digestion and absorption. Upon the first of these subjects the more recent facts and deductions will be found very fully and clearly detailed. The author assumes the purely chemical views advanced by the more recent physiologists, which are unquestionably correct so far as they go—but that digestion, whether in the stomach or intestines, is solely performed by chemical agency, is a doctrine which appears to us to want additional facts for its confirmation. The general conclusions of the author are:—

1. That, by the operation of the gastric fluid, the azotized principles of the food, whether animal or vegetable, are dissolved in the stomach, and are converted into albumen.
2. That the saccharine principles undergo a further change in the duodenum, by which they are partly converted into albumen, and partly into oleaginous matter; and that they are absorbed by the lacteals of the intestines in one of these two states.
3. That the oleaginous principles are either converted into albumen, or are absorbed without alteration.
4. That—with the exception of certain mineral substances—matters which cannot be reduced to either of these forms, are rejected as excrementitious."

In regard to lacteal absorption Dr. Carpenter adopts a view which we

advanced and attempted to establish upwards of twenty-five years ago, namely, that the lacteals have in some degree the power of *selecting* the particles of which the chyle is composed; and that, whilst they take up such a proportion of each class of alimentary materials, as will rightly blend with the rest in the nutritious fluid, they reject not only the remainder, but also—for the most part at least—any other ingredients which may be contained in the fluid of the intestines.

“Such may be stated as the general result of the experiments that have been made to determine their function; though it is unquestionable, that extraneous substances, especially of a saline nature, occasionally find their way into this system of vessels. This may not improbably be due to a correspondence in the size and form of the ultimate particles of such substances, with those of the materials normally absorbed by the lacteals. Experiments upon the function of absorption in plants, whose radical vessels have a corresponding power of *selection*, appear likely to assist in elucidating this interesting subject. By the experiments of Dr. Daubeny it has been ascertained, that if a plant absorb any particular saline compound, it can also be made to absorb those which are *isomorphous* with it, though it will reject most others.”

We are pleased to find the author giving his sanction to the opinion that the lymph, like the chyle, is a nutritious fluid, and not of an excrementitious character, as was formerly supposed. There is an evident conformity in the nature of the two fluids, with this exception, that the chyle contains a much larger *proportion* of assimilable substances—albumen, fibrin and fatty matter; the nature and amount of the less clearly defined animal principles, and of the saline ingredients, appear to be nearly identical in both.

“Hence it can scarcely be doubted that, to use Dr. Prout’s expression ‘a sort of digestion is carried on in all parts of the body.’ That a part of the products of interstitial decomposition may be subsequently assimilated appears indisputable; for in no other way can we account for the fact, that animals may live for a time on their own solids. This is particularly evident in the case of hibernating animals, which retire to their winter quarters loaded with fat, and come forth quite lean in the spring; and in such cases we must believe, not only that the lymphatics select from the products of spontaneous decomposition those which are fit to be again assimilated, but that an actual change is effected in the fatty matter, by means of some action of the fluids upon it, which prepares it to be thus absorbed.”

Many years ago we advanced precisely the same views, which were then received with not a little ridicule.

Some highly interesting, and very important facts and conclusions are contained in the section which treats of the supply of food required by man. In the correctness of a few of the conclusions we do not, however, entirely coincide. The subject of diet, as well in regard to the kind as to the amount of food necessary for the support of the health and vigour of man, is a somewhat complex one; as the circumstances of climate, nature and amount of occupation, habit, temperament, and state of health must all be taken into consideration in order to arrive at a correct conclusion, whereas by too many of the writers who treat of it, it is considered only in one point of view, and an attempt has even been made to determine a quality and amount of diet invariably adapted for the animal man. There are, unquestionably, certain general principles, connected with this subject, which are tolerably well settled, and are almost universally applicable, but details can be settled only by a reference to individual cases.

In treating of the subject of the circulation, the author denies that there is any ground for the assumption that the *capillaries* form a distinct set of

vessels in which the arteries terminate and the veins arise; or that they are in any respect different, except in size, from the other vessels. He also calls in question the correctness of the supposition, that nutrition can only be carried on by means of capillary vessels—it appearing from the late researches of Mr. Toynbee, that cartilages in general, the cornea, crystalline lens, and vitreous humour, together with the epidermoid appendages, are entirely destitute of them.

A very able section is given in relation to the action of the heart. On the important and much disputed question, the causes, namely, which influence the circulation in the arteries and capillaries, the views advanced by the author are ingenious, and borne out by striking analogies drawn from the physiology of vegetables and the lower classes of animals. He favours the idea of the independent circulation, at least to a certain extent, of the capillary vessels, or, in other words, that “the capillaries possess a *distributive* power over the blood, regulating the local circulation, independently of the central organ, in obedience to the necessities of each part.” (*Palmer*) The whole of this section is deserving of a very close examination. The whole chapter on the circulation is a very able one. The same remark may be made in reference to the ensuing chapter, on respiration, the account of which function is full and clear, and the several views advanced in relation to it are in strict accordance with recent observations and experiments.

The chapter on nutrition is a highly important one. Until very recently everything in relation to the physiology of nutrition was little better than mere vague conjecture; but few well ascertained facts had been developed in relation to it, and upon these were erected hypotheses which promised much, but explained nothing. To the researches of contemporary physiologists we are, however, indebted for many important discoveries in regard to the ultimate structure of the solids, and the organizable principles of the blood, which throw very considerable light upon the manner in which the various structures of the animal frame are built up, and unorganized converted into organized matter.

In the several sections of the chapter before us devoted to a consideration of the organizable principles of the blood, the formation of cells, the elaboration of chyle and lymph, the physical and vital properties of the blood, the pathological changes in the blood, and the origin and formation of the solid tissues, the student will acquire a very correct idea of all the facts connected with the subject of nutrition—and the general deductions to which they lead. The whole chapter demands a very close study, in order to a full comprehension of the various points involved in the investigation of the nature and mode of the ultimate structure of organized matter. We had marked several paragraphs expressing the particular views of Dr. Carpenter, for extraction; but found that in order to render them perfectly intelligible, and to do full justice to the author and to our readers, those extracts would necessarily be more extensive than would be compatible with our limits—we must content ourselves, therefore, with merely recommending the chapter to the attention of such as desire to become acquainted with a subject, than which to the physiologist, and pathologist, there is none more replete with interest—none calculated, in its ultimate developments, to lead to more important results in reference to the more obscure laws of human biology.

Intimately connected with the subject of nutrition is that of secretion,



which is next considered—including under the general term, that of secretion proper, or the separation from the blood of certain of its constituents to subserve particular objects by their retention within the system, and excretion or the separation of certain substances from the blood, the retention of which would be positively injurious.

We quote the following sentence as well as a specimen of the author's manner of treating the subject, as from its containing within a small compass a very clear exposition of the nature of every secreting organ throughout the animal economy.

“Of the reason why certain compounds forming part of the circulating blood, are separated from it by one organ, and others by a different one, nothing whatever is known; and there is nothing in the evident structure of those organs that can afford any clue to the attainment of such knowledge. When their ultimate structure is considered, it is found to be neither more nor less than a vascular membrane; made up into various forms for convenience of packing. Of such a membrane, in its most expanded state, that which composes the walls of the serous cavities, or of the synovial capsules, affords a good example; and the fluid which these cavities contain is secreted by it. Of mucous membrane the structure is in some instances almost equally simple; but in general the secreting surface is extended into a large number of little open sacs or follicles, which are copiously supplied with blood-vessels, and are equally concerned with the external superficies, in the elaboration of the protective secretion that covers those membranes. In the most complex form of gland, we find nothing but a very obvious modification of this structure. Either the sacs are prolonged in cæca or blind tubes, as is the case in the human kidney and testis; or they are very greatly multiplied, and are clustered together—just like currants upon a stalk—upon efferent ducts common to several of them, as is seen in the parotid. Now that the particular modification of structure which the gland may present, has no essential connection with the character of the secretion it is destined to form, is evident from this circumstance,—that almost every gland may be found under a variety of forms, in different parts of the animal series.”

Dr. Carpenter adopts the more generally received opinion; an opinion borne out by the recent experiments of Kiernan; that the bile is secreted entirely from the blood of the portal veins. Of the use of the bile, the author considers the most probable opinion to be, that besides its agency as a precipitant in separating the nutritious from the useless portion of the chyme, it is destined to remove from the blood its superfluous hydro-carbon, whether this has been absorbed as such from the aliment, or has been taken up by the blood as effete matter, during the course of the circulation. The presence of azote in picromel, however, shows that some of the effete azotized compounds also are got rid of in this manner.

In regard to the urinary secretion Dr. Carpenter believes that, there can be no doubt its chief purpose is to remove from the system the effete azotized matters which the blood takes up in the course of the circulation, or which may have been produced by the changes occurring in itself. This appears to be evident, from the large proportion of nitrogen, which is contained in the solid matter dissolved in it, and from the crystalline form presented by this solid matter when separated,—a form which indicates that its state of combination is such as to prevent it from conducing to the nutrition of the system.

The subject of the several secretions and excretions is treated with the author's usual ability. The structure of the various glands and glandular organs is minutely detailed—the chemical composition of the secreted and excreted fluids is given according to the latest and most authentic analyses,

and the general physiology of the whole subject very clearly elucidated. At the close of the chapter the author notices the various bodies, as the spleen, supra-renal capsules, and the thymus, and thyroid glands, which from their having a somewhat glandular aspect, are usually ranked among the secreting organs; but which have neither excretory ducts, nor any thing that can be considered as truly glandular in their structure. Upon the real office performed by these bodies, nothing certain is known; from the various conjectures as to their uses in the animal economy, Dr. Carpenter adopts what appears to him to be most probable. The theory of the operation of the spleen, the most satisfactory in his opinion is that advanced by Dr. Rush, which regards it as a sort of diverticulum or reservoir, which may serve to relieve the portal system from undue distension, under a great variety of circumstances. As to the supra-renal capsules, he considers that the only use that can be assigned to them, with any probability, is that of serving as a means of conveying into the veins the blood transmitted through the renal artery, when from any cause the secreting function of the kidneys is partially or entirely destroyed, and their capillary circulation in consequence stagnated. It would be easy to test the correctness of this supposition by the results of pathological anatomy. The author, although he admits that, at present, the question of the specific use of the thymus body must be left in uncertainty, seems favourable to the notion of Mr. Tyson, that the office of the thymus is to receive during foetal life the blood which is afterwards sent to the lungs—a certainly not very probable idea, more particularly, as, according to the author's own admission, the body continues to grow after birth, and remains of considerable size during the first year. After the latter period, in common with the generally received opinion, Dr. C. remarks, "it gradually diminishes, and wholly disappears about the time of puberty." We have reason to believe that this disappearance does not generally take place; we have certainly observed the gland of very considerable size in the adult, and if credit is to be given to the statements of Krause, this is very generally the case; he declares that he has found it in almost all individuals between twenty and thirty years; and very often *larger* than in young children.—and he has seen it of considerable size between the ages of thirty and fifty. In the early part of adult life it is generally divided into two parts, as in the fetus; these commonly adhere by cellular tissue. The lower cornua never, as in children, descend to the upper part of the pericardium, but frequently very low down upon the neck. He gives the following as the admeasurement of the thymus gland in some very healthy and well made individuals who had committed suicide:

In a male 25 years old, it was 34 lines long; 18.25 broad, 4 thick, weighing 292.5 grs; in volume 0.977 cubic inches, and in specific gravity 1.0352.

In a male 25 years old, it was 42 lines long; 32 broad, 2.3 thick, weighing 380.3 grs.; in volume 1.156 cubic inches, and in specific gravity 1.0311.

In a male 20 years old, it was in weight 356.5 grs.; in volume 1.085 cubic inches, and in specific gravity 1.0309.

In a female 28 years old, it was 22 lines long; 16 broad, 2 thick, weighing 69.2 grs.; in volume 0.211, and in specific gravity 1.0267.

Dr. Roberts of New York gives the result of the examination of the thymus at birth in six full grown children—the length varied from 12 to

nearly 36 lines; the breadth from 12 to 30 lines; the thickness from 5 to 6 lines, and its weight from 80 to 360 grs. The uses of the thyroid are not even conjectured.

The subject of animal heat is next considered. The views adopted by the author, in relation to the manner in which the temperature of the human body is produced and maintained are those that appear to be most in accordance with the best established facts, and the various vital phenomena both in health and disease.

The volume concludes with the consideration of the function of reproduction—the facts in relation to which are examined with great minuteness and care. The author adopts the doctrine of fecundation being the result of the action upon the female ova of the spermatozoa of the male semen, which find their way through the fallopian tubes to the ovaries.

We have now closed a very superficial notice of the valuable work of Dr. Carpenter. It contains one of the best summaries of the Principles of Human Physiology that has yet appeared. The author has taken particular care to discriminate between the doubtful and positive facts, and hypothetical and legitimate conclusions, in reference to every subject embraced in the science of which he treats—while, at the same time, he has endeavoured to assign to each fact and inference its due importance in the establishment of general physiological doctrines. To the student it will form a valuable manual; particularly to the student of medicine, the pathological applications of the various physiological facts and principles being in most cases indicated with considerable judgment. The leading characteristics of the present treatise were pointed out in the commencement of this notice. Dr. Carpenter has a very happy facility of making each subject of which he treats perfectly clear and comprehensible—showing, in all cases, the direct application of the facts he relates, and, admitting their truth, the probable or positive inference that results from them; a most important recommendation in every work prepared for the use of students. A somewhat different arrangement of the subjects would probably have been preferable to that adopted, but this is after all mere matter of opinion. The text is illustrated by pictorial diagrams wherever this mode of illustration could with propriety be adopted.

The additions of the editor, Dr. Clymer, are numerous and invariably pertinent—adding to the text of the author whatever has been derived from the daily improvements in physiology, and to his positions new illustrations. Dr. Clymer, at the request of the author, has incorporated in this edition, the able report of the latter on the physiology of cells, published in the British and Foreign Medical Review for January, 1843.

To such of the members of our profession who desire to become acquainted with the present state of physiology generally, or upon any particular subject, but cannot spare the time to consult the various monographs that have appeared within a few years, the present volume is recommended as well adapted to afford them the requisite information.

D. F. C.



## BIBLIOGRAPHICAL NOTICES.

ART. XIII.—*Special Anatomy and Histology*. By WILLIAM E. HORNER, M. D., &c., in two volumes—Sixth Edition. Philadelphia, 1843.

ANOTHER edition of this standard work of Professor Horner has made its appearance, to which many additions have been made, and upon which much labour has been bestowed by its author. The additions are chiefly in the department of Histology or elementary anatomy, and so important are they, that the Professor has added the term to the title of his work.

Under the head of the chemical constituents of the body, are enumerated the various newly discovered compound organic radicals and their combinations, as for instance, proteine, albumen, caseine, fibrine, pepsine, globuline, &c., a short account of the properties of each being given.

The chapter on Histogeny, or the origin and growth of elementary organisms, contains a full account of the origin and formation of tissues by means of cell-germs, nuclei and nucleated cells, as well as a description of the elementary parts which make up the body of animals, as chondrine, pyine, hematine, &c.

Before commencing the special description of any particular tissue, the Professor gives a chapter on its general anatomy. This part of the work has received the greatest attention, and much of it may be said to be re-written; the late discoveries by the microscope rendering such a measure necessary.

There are some parts of the work in which a strong disposition is manifested to adhere to the old descriptions, *not* however, to the exclusion of the later and more perfect views of the part described. For instance, the rete mucosum is still described as possessing four layers, viz. 1. the bloody pimples; 2. the tunica albida profunda; 3. the gemmula; and 4. the tunica albida superficialis;—which have been studied chiefly by means of examinations of the skin in diseased conditions, as for instance in the small-pox pustule, rendering it probable *at least* that they are the results of diseased action, and not the true structure of the part in a normal state. Professor H., however, adds a brief account of the more recent researches of Messrs. Breschet and de Vauzeine, upon which, however, he seems to place but little reliance.

In describing the filaments which may be seen in the interval between the two tissues, on separating the cuticle from the cutis-vera after maceration, we perceive that the explanation given in a former edition is still adhered to, although they are readily seen to be due to an elongation of the *papillæ tactus* of the derm in consequence of an adhesion between their tips and the cuticle. When pulled entirely apart, their tips break off, and adhering to the cuticular portion form what Gaultier calls the layer of bloody pimples.

The chapter on the general anatomy of the muscular system is full and complete, and gives an excellent view of the present state of our knowledge on the subject.

The account of the minute anatomy of the mucous membrane has claimed a very large share of the author's attention, and it is a subject which he has deeply studied and most splendidly illustrated by a series of minute injections, which are placed in the Wistar Museum.

His account of the mucous membrane appeared in this journal in advance of the researches of Sprott Boyd, but seems, as usual, to have excited but little attention from our transatlantic brethren. His estimate of the number of follicles, which we are confident is *within* the mark, will go far to make the student understand how the slight affections of the mucous membrane so readily and so rapidly affect the general system. The calculation (p. 51, vol. 2) gives to the

stomach 1,296,000, and to the colon 9,620,000. The whole number of follicles in the alimentary canal being estimated at plus 46,900,000.

The researches of the author led him some time since to adopt a description of the structure of the lung which differed widely from that of any previous anatomist, although he says, vol. 2, p. 161, that it "may be traced as far back as Helvetius and Duverney, and has as its advocates, Haller, Semmering, J. F. Meckel and Cruveilhier."

Every part of this edition seems to have undergone the most careful revision, and its readers may rest assured of having the science of human anatomy fully brought up to the present day, in these volumes.

An additional advantage is promised in an accompanying atlas of illustrations, without which no work on demonstrative science ought to appear, and it would be much better to have them on the same page as the description. P. B. G.

ART. XIV.—*The Dispensatory of the United States of America.* By GEORGE B. WOOD, M. D., Professor of Materia Medica in the University of Pennsylvania, &c., and FRANKLIN BACHE, M. D., Professor of Chemistry in Jefferson Medical College of Philadelphia, &c. Fifth edition, enlarged and carefully revised. 1 vol. 8vo., pp. 1368. Grigg & Elliot, 1843.

DURING the ten years that have elapsed since the first edition of this work, the exceeding high estimation in which it is held by the medical and pharmaceutical public, has been evinced by the constant demand for it, and the rapid disposal it has met with.

Previous to its appearance, the state of pharmacological knowledge in this country was so impoverished and barren, in consequence of the paucity and meagreness of systematic treatises, which were far behind the age, not only with respect to scientific details, but really important practical discoveries, that at the time of its publication, the *United States Dispensatory* might almost be regarded in the light of a revelation, and in conjunction with the valuable auxiliaries, periodical, and others which have since been associated with it, it has contributed to dispel the ignorance, apathy, and indifference that depressed one of the most extensive and necessary departments of medical science. To institute, however, a comparison between the condition of American pharmacology during two distinctly marked eras that have been under our immediate observation, would be an extended occupation; we wish only to refer to such epochs connected with its history, in noticing a work which is inseparable from the agencies that gave rise to reformation, and which has largely conduced to awaken a taste for the cultivation of the materia medica, and to demonstrate its capabilities. The indefatigable authors have laboured assiduously in the field to which they have devoted themselves; and it will be admitted, that it is no disparagement to other meritorious individuals, to assert, that they have done more than a mere share to render fertile the waste and unproductive places.

In each succeeding edition of the *Dispensatory*, the work has been rendered a full compendium of the existing information; improvements and alterations have been introduced, and a jealous vigilance has been exercised with respect to additions and discoveries in science at home and abroad; but it is stated in the preface to this, the fifth edition, that "on no revision have the authors bestowed so much labour as on the present," and the following reasons have been given: The new editions of the *United States* and *Edinburgh Pharmacopœias* required comment; and the recent pharmacological treatises of Dr. Pereira and Dr. Christison, containing much original observation, and the *Medical Flora* of Dr. Lindley, not to speak of other valuable works in different departments of materia medica and pharmacy, afforded a great mass of new materials for selection and arrangement. The periodical press has also presented much that demanded notice, and the changes in the commerce in drugs, and the various modifications in pharmaceutical operations, resulting from increased experience and the ad-

vancement of science, called for careful personal examination and inquiry. It appears that the materials have so far increased, that even "by pruning redundances and concentrating the new matter within the smallest possible space, the authors have been compelled to exceed the former limits by more than one hundred pages."

The method and arrangement of the United States Dispensatory are too familiar to require *their being detailed*; the same divisions have been introduced into this as in former revisions. The changes that have been made, consist of new information with regard to the articles of the materia medica, with additional accounts of medicinal substances; the improvements which preparations have undergone in their modes of formation; an exposition of such as have been recently introduced; and lastly, the improvements in pharmaceutical processes. It would be impossible, except in an elaborate analysis, to present all the particulars in which alteration is apparent; it will be sufficient to state, extension is given to our knowledge upon most of the important subjects, among which we may notice aloes, catechu, cinchona, conium, ergot, gamboge, iodine, kino, lobelia, maranta, opium, &c. &c. Some of the more recently introduced drugs, have been placed in the body of the work, while others of minor importance have been described in the appendix; a similar disposal has been made of new preparations as they have been made official or otherwise; and among the pharmaceutical operations we were pleased to see a more full account of the method by displacement. This book has done a great deal to exalt the scientific reputation of our country abroad, while its career has been one of honour and usefulness at home; our interests are united in the continuance of its success, and we only hope that this may equal its deserts.

J. C

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ART. XV.—*Mortality of the City of New York. Annual Report of Interments for the year 1842, together with a brief view of the Sanatory condition of the city; an exposition of some of the causes of its sickness and mortality, and the suggestion of a few remedial measures for the consideration of the Common Council.* By JOHN H. GRISCOM, M. D., City Inspector.

THIS document, the preparation of which reflects great credit upon Dr. Griscom,—commences with tabular statements, showing the mortality from the different classes of diseases, and each particular disease which proved a source of death in New York during the year past. The whole number of interments reported was, exclusive of still-born, 8,475, being 56 less than in the preceding year. Of this number there were,

|                             |   |   |   |   |       |       |
|-----------------------------|---|---|---|---|-------|-------|
| White Males,                | - | - | - | - | 4,110 |       |
| do Females                  | - | - | - | - | 3,831 |       |
|                             |   |   |   |   |       | 7,941 |
| Coloured Males,             | - | - | - | - | 255   |       |
| do Females,                 | - | - | - | - | 279   |       |
|                             |   |   |   |   |       | 534   |
|                             |   |   |   |   |       | 8,475 |
| Premature and Still-births, | - | - | - | - | 701   |       |
| Total Interments,           | - | - | - | - | -     | 9,176 |

The number of deaths by the *first class of diseases*, (Epidemics,) was 2,320, an increase of about 100 over the preceding year's mortality, from the same causes. In some of the individuals of that class there appears an increase, and in others a decrease from the bill of 1841. Measles gives but little more than one half, Small-Pox 48 less, Scarlet Fever 50 more, Whooping-cough and Typhus (including Typhoid) Fever give an increase, Erysipelas, Diarrhœa and Dysentery a diminution. Under the term *Synocha* are included "bilious," "inflammatory" and "continued" fevers.

The mortality of the last and previous years, by diseases of the *nervous sys-*



*tem*, appears nearly equal. With regard to the deaths reported as from Delirium Tremens and Intemperance, they cannot be relied on as the whole truth, because many, of which these have been the principal causes, are returned under other diseases, mostly Apoplexy and Consumption. As reported, however, the number of deaths in the last few years, in proportion to the population, exhibits a gratifying decrease.

Under the term *inflammation of brain* are included "congestion of brain;" under *convulsions* are placed "spasms," "fits" and "cramp," and *diseases of brain* includes "softening," "ulceration," "affection" and "irritation."<sup>\*</sup>

The number of deaths by diseases of the *respiratory organs* was 2,212, being 232 less than in 1841. Of consumption there died,

|                 |   |      |                             |       |
|-----------------|---|------|-----------------------------|-------|
| White Males,    | - | 617, | of whom were under 5 years, | 76    |
| do Females,     |   | 603, | " " "                       | 41    |
| Coloured Males, |   | 55,  | " " "                       | 5     |
| do Females,     |   | 64,  | " " "                       | 6     |
|                 |   |      |                             | 1,339 |
|                 |   |      |                             | 136   |

The proportion of these deaths to the whole (omitting still-births and casualties) is as 1 to 6,114.

Of the 1,339 deaths by consumption, 719 only were of natives of the United States, while the great proportion of 600 were of foreign births. A very important inference relative to the liability of inhabitants of this city to this disease, is to be drawn from this fact. Frequent calculations have of late been made of the comparative obnoxiousness to it, of the citizens of Boston, Philadelphia, and New York. The last, made in Boston,\* gives the following average of the deaths by consumption to the whole number of deaths:

|                  |   |   |   |   |            |
|------------------|---|---|---|---|------------|
| In Boston,       | - | - | - | - | 1 in 6,185 |
| In Philadelphia, |   | - | - | - | 1 in 7,003 |
| In New York,     |   | - | - | - | 1 in 5,517 |

The returns of 1842, however, show the proportion here to be as above stated, 1 in 6,114; or, if we include the accidental deaths, only 1 in 6,329, which gives a proportion rather better than the average of Boston.

In his attempts to explain the high rate of mortality in New York from consumption, Dr. Griscom lays great stress upon the very large proportion of foreigners there congregated, many of whom arrive in the most destitute condition, and live in the most squalid poverty, circumstances which invite disease, and especially fevers and diseases of the lungs.

"Living with their acquaintance awhile in crowded apartments, in cellars, in crumbling tenements, and narrow courts and streets, and upon food poor in quality, and stinted in quantity, they are peculiarly exposed to inroads of disease, and to none more than consumption. These causes are not peculiar to New York. Its climate, the least of all, perhaps, aids in the work of destruction. The same result would ensue, upon the same aggregation of causes and material, in any other place, and it cannot justly be charged upon any insalubrious peculiarity of its geographical position, its soil, or meteorological qualities. Whence comes the great mortality by consumption of 410 natives of Ireland, as shown in the bill, *more than two thirds the number of white natives*, if not from the combined influences of mental, moral, and physical degradation and depression, incidental to their change of country, climate, habits and associations? The means are not at hand for estimating the proportion of foreigners resident in Boston or Philadelphia, nor indeed in this city; but the different relations of the three places indicate very plainly the greater burden of New York in this respect.†

The number of deaths reported under the head of diseases of the *digestive organs*, shows diminution of nearly 200 from the amount of the previous year.

\* Statistics of Pulmonary Consumption in the cities of Boston, New York and Philadelphia, for 30 years, with Remarks, by George Hayward, M. D., *N. E. Quart. Journ. Med. and Surg.*, Jan. 1843.

† The relative proportions of this class of residents may be inferred from the following

The greatest mortality under this general head was from *inflammation of the stomach and bowels*, and *marasmus*. The last named infantile affection embraces one third of the whole mortality from diseases of the digestive organs, nearly all the deaths having taken place under the fifth year.

The classification and arrangement of diseases adopted by Dr. Griscom, is very similar to that followed by the Registrar-General of England, in his annual reports of that kingdom, extended notices of which interesting documents have been frequently given in the previous numbers of the American Journal of the Medical Sciences.

In addition to specifying the several causes of death, Dr. Griscom gives us in his tables a separate statement of the mortality of the whites and blacks, male and female, the months in which the deaths occurred; together with the ages, and places of nativity of the deceased. Of the total interments, the distribution through the several months was as follows:—

|           |     |         |     |            |     |
|-----------|-----|---------|-----|------------|-----|
| January,  | 927 | May,    | 686 | September, | 803 |
| February, | 767 | June,   | 611 | October,   | 770 |
| March,    | 787 | July,   | 873 | November,  | 605 |
| April,    | 743 | August, | 931 | December,  | 673 |

The different ages under which the deaths are registered, are as follows:—

|                 |      |                 |     |                        |     |
|-----------------|------|-----------------|-----|------------------------|-----|
| Under 1 year,   | 2098 | 20 to 30 years, | 970 | 70 to 80 years,        | 187 |
| 1 to 2 years,   | 1088 | 30 to 40 years, | 977 | 80 to 90 years,        | 82  |
| 2 to 5 years,   | 937  | 40 to 50 years, | 615 | 90 to 100 years,       | 21  |
| 5 to 10 years,  | 381  | 50 to 60 years, | 347 | 100 years and upwards, | 4   |
| 10 to 20 years, | 351  | 60 to 70 years, | 313 |                        |     |

Of those who died, there were born in

|                         |       |                        |     |
|-------------------------|-------|------------------------|-----|
| United States,          | 6,222 | France,                | 54  |
| British Provinces, &c., | 30    | Other parts of Europe, | 51  |
| West Indies,            | 26    | Africa,                | 2   |
| Ireland,                | 1,250 | At Sea,                | 2   |
| Great Britain,          | 413   | Unknown,               | 199 |
| Germany,                | 226   |                        |     |

The distribution of the white population of the city of New York, according to the U. S. Census returns of 1840, together with the ratios of the white mortality at different periods of life in 1842, are given in the following table.

| White Males.      | No.     | Deaths | Proportion.                         | White Females.    | No.     | Deaths | Proportion.                           |
|-------------------|---------|--------|-------------------------------------|-------------------|---------|--------|---------------------------------------|
| Under 5 years,    | 23,779  | 2,123  | or 1 in 11                          | Under 5 years,    | 24,174  | 1,841  | or 1 in 13                            |
| Between 5 and 10, | 15,619  | 189    | " 82                                | Between 5 and 10, | 16,865  | 171    | " 98                                  |
| " 10 " 20,        | 26,012  | 146    | " 178                               | " 10 " 20,        | 31,676  | 174    | " 182                                 |
| " 20 " 30,        | 37,518  | 390    | " 96                                | " 20 " 30,        | 42,862  | 499    | " 85                                  |
| " 30 " 40,        | 26,019  | 416    | " 58                                | " 30 " 40,        | 23,358  | 430    | " 54                                  |
| " 40 " 50,        | 11,282  | 330    | " 34                                | " 40 " 50,        | 11,345  | 219    | " 52                                  |
| " 50 " 60,        | 4,850   | 171    | " 28                                | " 50 " 60,        | 6,019   | 147    | " 40                                  |
| " 60 " 70,        | 2,260   | 143    | " 15                                | " 60 " 70,        | 3,192   | 149    | " 21                                  |
| " 70 " 80,        | 759     | 77     | " 9                                 | " 70 " 80,        | 1,262   | 102    | " 12                                  |
| " 80 " 90,        | 175     | 33     | " 5                                 | " 80 " 90,        | 327     | 53     | " 6                                   |
| " 90 " 100,       | 27      | 8      | " 3                                 | " 90 " 100,       | 45      | 10     | " 4                                   |
| " 100 and upd.    | 3       | 1      | " 3                                 | " 100 and upd.    | 4       | 1      | " 4                                   |
| Total, Males,     | 148,294 | 4,057  | or 1 in 36½ of the male population. | Total, Females,   | 161,179 | 3,726  | or 1 in 42½ of the female population. |

extract from the returns made to the U. S. Secretary of State, of the number of "Passengers who arrived in the United States, 1840."

|              | Boston. | Philadelphia. | New York. |
|--------------|---------|---------------|-----------|
| 1st quarter, | 153     | 32            | 3,951     |
| 2d do        | 1,645   | 1,914         | 27,310    |
| 3d do        | 2,445   | 1,808         | 22,526    |
| 4th do       | 1,118   | 325           | 6,822     |
| Total,       | 5,361   | 4,079         | 60,609    |

In 1842, 74,949 passengers arrived at the Port of New York.

One of the main objects of the enumerations and investigations furnished through the labours of the inspectors of public health, is the discovery of the causes of increased mortality with a view to their removal or correction. Among the most serious agencies operating to increase the general mortality, Dr. Griscom refers to the *crowded condition, with insufficient ventilation of a great number of the dwellings of the city*. In computing the number of the population of New York unfavourably situated in cellars, courts, and rear buildings, he makes the following statement:—

“Assuming the average number in each family to be *four*, we have a total, of dwellers in alleys, courts and cellars, of 33,668.\* Many of these back places are so constructed, as to cut off all circulation of air—the line of houses being across the entrance—forming a *cul de sac*, while those in which the line is parallel with, and at one side of the entrance, are rather more favourably situated, but still excluded from any general visitation of air in currents.

“With regard to the influence of these localities upon the health and lives of the inmates, there is, there can be, no dispute; but few are aware of the dreadful extent of the disease and suffering to be found in them. In the damp, dark and chilly cellars, fever, rheumatism, contagious and inflammatory disorders, affections of the lungs, skin and eyes, and numerous others, are rife, and too often successfully combat the skill of the physician and the benevolence of strangers. I speak now of the influence of the *locality* merely. The degraded habits of life, the filth, the degenerate morals, the confined and crowded apartments, and insufficient food, of those who live in more elevated rooms, comparatively beyond the reach of the exhalations of the soil, engender a different train of diseases, sufficiently distressing to contemplate; but the addition to all these causes of the foul influences of the incessant moisture, and more confined air, of under-ground rooms, is productive of evils which humanity cannot regard without shuddering.

“Abundant evidence of the influence of residence in cellars upon susceptibility to disease, might be adduced. Of the bilious typhus fever, which prevailed in this city in the summer and autumn of 1820, known as the “*Banker-street Fever*,” the following facts are stated by Dr. Pennel, in an essay, published the following year:

““Out of the whole number of blacks in this district, viz. 562, 119 lived in cellars, of whom 54 were sick of the prevailing fever, 24 of whom died at their homes; while, of the remaining number of black inhabitants, viz. 443, 101 were sick, of whom 46 died at their homes. From which it appears that out of 443 who were better lodged, only 101 were sick of this disease; while, out of 119 living in unwholesome cellars, that *nearly one half were taken down with the disease*, and that nearly one half of that number died at their places of dwelling.”

““Out of 48 blacks, living in 10 cellars, 33 were sick, of whom 14 died; while, of 120 whites, living *immediately over their heads* in the apartments of the same houses, *not one* even had the fever.”

“The healthful influence of good habits and better localities was ‘furthermore confirmed by the fact, that those persons, whether black or white, who lived a becoming and regular life, and did not associate with the dissolute and intemperate, almost always escaped, although inhabiting an adjoining house, and, in some instances, living under the same roof with those who were the victims to it.’”

In the fulfilment of his duties as City Inspector, Dr. Griscom refers to various other causes which exercise an unfavourable influence upon the salubrity of the city, such as the existence of the slaughter-houses, localities not sufficiently drained, etc. etc., after which he proceeds to suggest the measures which he thinks best adapted for the correction or removal of the evils complained of.

G. E.

\* The cellar population of Liverpool is said to be 40,000.



ART. XVI.—*A Treatise on Protracted Indigestion, and its consequences, being the application to the Practical Department of Medicine, of the Results of an Inquiry into the Laws of the Vital Functions, addressed by the Author, on his retirement from the Medical Profession, both to the Members of that Profession, and to the well-educated Public, particularly Parents.* By A. P. W. PHILIP, M. D., F. R. S. &c. Philadelphia: Lea and Blanchard, 1843: pp. 240.

It is always a matter of deep and abiding regret to be called upon to notice the errors of professional brethren; but it is more especially painful to have to record the fact of one, who has enjoyed a distinguished medical reputation, descending to an appeal from his professional peers, to the judgment of the public, which, however intelligent, is necessarily so incompetent to form a correct estimate of his labours and opinions. There is but one excuse for this departure from the high standards of professional character, and we cannot but think, judging from the work above named, that it applies in the present instance: viz, the dotings of a "fond old man" over the cherished offspring of his brain, to which he clings with desperate attachment, long after it has proved unworthy of his care.

There is such an evident want of arrangement, such constant repetitions, and never-ending references to his previously published works, such utter ignorance or concealed knowledge of the writings of others, in which his favourite theories are entirely overthrown, such a tone of self-satisfaction, and easy credulity, manifested throughout, that it is hardly possible to suppose that the author's mind preserves its proper balance. Of one thing, however, we are well convinced; that it is a very safe book to place in the hands of the public, for it is not at all probable that any one will take the trouble to read enough of it, to find out the little valuable information it contains.

The work is divided into a preface, two parts and an appendix. The preface and first part are intended to point out and correct the physiological errors, which our author considers as prevailing in the profession, and which prevent medical men from adopting his views; his object is farther, to instruct the "intelligent public," so that it may compel these refractory individuals to revise their opinions and admit their errors. In view of this laudable undertaking, a number of papers, published at different times in the Philosophical Transactions of the Royal Society of London, and containing these despised doctrines and experiments, are inserted in, and constitute the appendix of some eighty-four pages.

The second part, which forms the body of the book, is devoted more especially "to the consideration of the nature and tendencies of indigestion, when confirmed by continuance, in which state it has, in common language, obtained the name of bilious complaints." They depend, according to our author, upon a "distended liver," which although in itself of little immediate danger to the constitution, because this is an organ of a low degree of vitality, is productive in time, in consequence of its extensive sympathy, of the most fatal diseases prevalent in Great Britain. He considers that this affection is an endemic there, that it is the most hereditary disorder known in that country, occasioned "partly by the hereditary transmission and partly by the changeable nature of the climate," and that from the absence of prominent symptoms in the first stages, it is generally overlooked until it has laid the foundation of incurable diseases, among which, the most common and dangerous, is pulmonary consumption.

"The disease I have been describing," says Dr. Philip, "consists of three distinct stages.

"The first is merely a distended state of the liver and duodenum, and generally slight derangements, chiefly of the alimentary canal, which accompany it; free from danger, and causing but occasional, and, in general, trifling local uneasiness.

"The second stage is distinguished by a general and permanent fret of nerves having supervened, causing varied, and often severe suffering, but still without immediate danger.

"The third and last stage is characterized by an affection of some other vital organ, the brain and spinal marrow at length being so debilitated by the continuance of the nervous fret, that they are no longer capable of supplying sufficient nervous influence for the healthy functions of all the vital organs, and the organ most inclined to disease fails in its functions; and this failure soon runs to failure of structure, in consequence of the debility of the central organs. \* \* \* At different times of life different organs are most disposed to disease; hence it is that pulmonary consumption is frequently the fatal termination of distended liver in early life, palsy and apoplexy in late life; and whenever, after the fret of nerve has become permanent, there is any disposition, from whatever cause, to disease in any particular organ, the state of that organ should be watched with care." P. 128.

The reader will certainly be not a little startled by the author's opinions relative to pulmonary consumption, of which he will find the general conclusions in the following extract. After stating his reasons for selecting the distended liver as an example of chronic disease, debilitating the brain and spinal marrow by its continuance—these reasons being its great frequency, importance and hereditary character—and also his reasons for choosing "a certain form of pulmonary consumption" as a consequence of this debility of the brain and spinal marrow, Dr. Philip remarks, "The following observations, (relative to the treatment of the last stage of distended liver) then, apply to hereditary pulmonary consumption, in consequence of its always being a secondary disease; while the pulmonary consumption which originates in the lungs themselves is of a very different nature, rarely occurring in this country (Great Britain), and requiring as we have seen a very different plan of treatment, (an immediate change to a warm and more steady climate). But whether the secondary consumption is or is not hereditary, it still requires the same plan of treatment, for the same secondary form of this disease may arise without any hereditary disposition, although this is much less frequently the case. Whether there be an hereditary disposition to weak lungs or not, the permanently distended state of the liver is, in these kingdoms, the cause of the pulmonary disease in at least nineteen out of twenty cases."—P. 143.

Many similar passages might be cited, containing the same views and even more strongly expressed, but we think the above will be sufficient to show the author's opinion of the nature of the disease.

In the treatment of this malady, the object must be to remove the original disease, the distended liver, and thus to restore the functions of the brain, and through it, of the lungs. To effect this, no other means, in the opinion of Dr. P. are to be relied upon, except "minute doses of mercury, given at intervals of eight hours. The dose I have found," says Dr. P., "after many trials, to answer the purpose was either the twentieth part of a grain of calomel, or half a grain of blue pill, which as an alterative is equal, or nearly equal, in power to it, according as one or the other best suited the constitution. The minute dose of calomel is most aperient, but on the whole, I have thought the blue pill is the best alterative."—P. 139.

These minute doses are to be continued, combined with soothing and stomachic medicines, a well-regulated system of diet and exercise, until a favourable effect has been produced; they may be taken for years, if necessary to the restoration and maintenance of health, to which they are rarely prejudicial.

Such, then, are the leading features of the doctrines contained in this treatise. In a practical point of view, the results are important, and will certainly command attention, although they have been laid before the profession in so exceptional a manner.

C. R. K.

ART. XVI.—*Facts and Arguments on the Transmission of Intellectual and Moral Qualities from Parents to Offspring*. New York. Wiley & Putnam, 1843. 12mo. pp. 191.

IN this little volume we have an attempt to establish by facts and arguments the transmissibility of moral and intellectual qualities from the mother, in particular, to her child, and, as a consequence, to incite to a proper examination of the question, in order that while the physical conformation of the body in general is sought to be improved by marriage with persons in robust health, and with fine constitutions, an increase of the size of the brain may also be aimed at in those portions of it which, phrenologically speaking, are the organs of the moral and intellectual faculties. Upon the mother, chiefly, according to our authoress, does this improvement in the offspring depend, and upon her, therefore, devolves the important duty of so training her own mind by proper courses of study, and of so encouraging the exercise of her moral qualities, that she may bestow upon her child a brain so organized as to be susceptible of the highest moral and intellectual cultivation.

Much interesting and agreeable information is brought forward in the way of facts and illustrations; and in them lies the chief strength of this appeal; for we must confess that there is nothing either very original or cogent in the arguments presented. Indeed, when our authoress attempts to speak upon medical matters she certainly reasons without a just appreciation of facts. Among other things, it appears that she has discovered that in homeopathy, is to be found a remarkable cure for *sterility*, quoting as an evidence the following choice *morceau* from one of the writers on its practical advantages.

"The power which homeopathy exerts over the functions of the uterus, has in a vast number of instances been strikingly exemplified, for by correcting the deranged condition of this organ, *sterility*, which had been considered established, has been completely removed."

Upon the whole, however, this is an entertaining little work, and will well repay perusal.

C. R. K.

ART. XVII.—*Elements of Chemistry, including the applications of the science in the Arts. With numerous illustrations*. By THOMAS GRAHAM, F. R. S. L. & E. Professor of Chemistry in University College, London, &c. With notes and additions by ROBERT BRIDGES, M. D., Professor of General and Pharmaceutical Chemistry in the Philadelphia College of Pharmacy, &c. Philadelphia: Lea & Blanchard, 1843.

THE student of Chemistry in this country cannot but be gratified, by the announcement of an American edition of "Graham's Elements," by its enterprising publishers, which places at his disposal another excellent exposition of chemical science, and one which is at least equal, to any other work on the same subject in the English language.

Part first, contains the fundamental doctrines of the science, and embraces "under the heads of Combining Proportions, Atomic Theory, Doctrine of Volumes, Isomorphism, Isomerism, Constitution of Salts and Chemical Affinity," a mass of valuable information. The author's views of classification, which have been adopted by Kane, are also stated at length in this part of the work.

Part second, contains a description of the non-metallic and metallic elements, together with their binary compounds and salts. This portion of the work, while it is amply comprehensive in detail for the purposes of a text book, embraces a more extended view of those substances of importance in the arts, as Sulphuric Acid, Iodine, Carbonate of Soda, Chloride of Lime, etc.; and of the practice of alkalimetry and chlorimetry.

The author has placed the description of the salts of each metal, immediately



following that of its binary compounds, which presents the whole subject at one view, and facilitates reference.

Part third, treats of Organic Chemistry. A condensed account of organic analysis, the doctrine of substitutions of Dumas, the action of ferments, and the molecular theory of organic compounds, are embraced in a preliminary section. Liebig's method of arrangement under compound radicals has been adopted, which gives greater unity to the subject, and facilitates its study. This part of the work contains much that is new in animal chemistry, and "important conclusions respecting the functions of digestion and respiration, results which are entirely new, and now enter, for the first time, into a systematic work on chemistry."

Under the supervision of its able editor, the text has undergone a careful correction, and, in the form of notes, several important observations, made subsequently to its publication, have been appended. The work contains one hundred and thirty-three illustrations, and in fine constitutes a most valuable addition to our chemical literature.

W. P.

ART. XVIII.—*On Diseases of the Bladder and Prostate Gland, with plates.* By WILLIAM COULSON. 3d edition, revised and corrected. London, 1842, pp. 274, 8vo.

THE first edition of the work of Mr. Coulson appeared in 1838; a second was called for in 1840, and now in a little more than four years from its first appearance a third has been issued. This alone would lead us to look upon the book as possessing some merit—and an examination of its pages has confirmed this opinion. The inflammatory diseases which attack the different coats of the bladder, inasmuch as they are distinguishable from one another by their progress and symptoms, as well as require a different treatment, are treated of in separate chapters, and the important subjects of vesical calculi, their nature and treatment, and acute and chronic inflammation of the prostate gland, occupy a large space. The chemical examination of the urine has of latter years attracted so much attention, and its practical importance is so generally acknowledged, that no work treating upon diseases of the bladder would now be considered complete without it; and Mr. Coulson, aware of this, has furnished an interesting chapter on the subject. Upon the whole this volume presents a good resumé of our knowledge on the diseases of the bladder and prostate gland.

ART. XIX.—*Bulletin Bibliographique des Sciences Médicales et des Sciences qui s'y rapportent ou indication de tous les ouvrages qui se publient en France, sur la Médecine, la chirurgie, l'anatomie, la physiologie, la physique, la chimie, l'histoire naturelle, &c. Suivi d'un Catalogue, de livres anciens et modernes Français et Etrangers.* Paris, J. B. BAILLIERE, 1843, pp. 48, 8vo.

THE design of this publication is to furnish, as complete as possible, a catalogue of the works published in France relative to the different branches of medicine, the physical sciences and natural history.

The exact title of each work is given, with its form, number of pages, number of plates, name of the publisher, and price. The place of publication of the Journals and works issued by subscription is also announced.

The interest of this publication will be increased by giving with the title of a new work, a list of the previous writings of the author; and likewise by sometimes enumerating the principal works which have previously appeared on the same subject.

This Bulletin is divided into two parts. The first contains a list of the books published during the quarter. The second contains a catalogue of the an-

cient and modern works printed in France and elsewhere; and finally a list of some of the works in the store of M. Bailliere, presenting their exact titles, condition and price.

This Bulletin is to appear Quarterly, each No. to contain from 32 to 40 pages 8vo. Subscription three francs per annum. It will be a very useful and acceptable publication to the medical student.

ART. XX.—*A Treatise on Food and Diet: with Observations on the Dietetical Regimen suited for Disordered States of the Digestive Organs; and an account of the Dietaries of some of the principal Metropolitan and other establishments for paupers, lunatics, criminals, children, the sick, &c.* By JONATHAN PEREIRA, M. D., F. R. S. & L. S. Licentiate of the Royal College of Physicians in London, &c. &c. Edited by Charles A. Lee, M. D., New York. J. & H. G. Langley, 1843, pp. 325, 8vo.

THIS treatise has strong claims to notice, not only from the reputation which its author has established by his "*Elements of Materia Medica and Therapeutics*," but also by its own merits. It is, indeed, a work of a highly scientific character, in which respect, it differs from most of its predecessors. It contains a full account of the chemical elements of food, a subject to which the recent researches of Boussongault, Liebig, and Dumas have given much interest. A considerable space is also devoted to the consideration of alimentary principles; and the alimentary principles and compound aliments are considered separately, a plan which the author has adopted from Tiedemann, and which he considers very superior to the ordinary method of treating these subjects.

This treatise is divided into two parts; the first being devoted to the consideration of foods, the second to diet.

The substances employed by man as food consist of certain compound bodies termed *alimentary principles*, which by their mixture or union constitute our ordinary food.

Dr. Pereira considers in the first part in successive chapters, 1st, The chemical elements of foods; 2d, The alimentary principles; and 3d, The compound aliments.

In the second part of his treatise, the author treats of the adaptation of aliments to the different wants and conditions of human existence. This involves the consideration of the digestibility and nutritious quality of foods, as well as the times best fitted for eating; and the author treats, 1st, Of the digestibility of food; 2d, The nutritive qualities of food; 3d, The times of eating; 4th, On dietaries; and 5th, On the dietetical regimen suited for disordered states of the digestive organs.

The editor has added some interesting notes and an appendix.

The work, if less readable than most of its predecessors, is extremely valuable as a work of reference; and in copiousness and minuteness of its chemical details it takes precedence of any other on the subject, that has as yet appeared.

ART. XXI.—*Pathological and Surgical Observations on the Diseases of the Joints.* By Sir BENJAMIN C. BRODIE, Bart., F. R. S., Sergeant-Surgeon to the King, Surgeon to St. George's Hospital, and Author of Diseases of the Urinary Organs, &c. From the Fourth London Edition, with the Author's Alterations and Additions. Philadelphia: Lea & Blanchard, 1843, pp. 216, 8vo.

THE works of Sir Benjamin Brodie, are all of them classical. To this rank, they are fully entitled not only from the long and extensive experience of the author, and the prominent position he holds among the most distinguished sur-

geons of the British metropolis, but also by the sound judgment, candour, truth, and discretion which is every where evinced in his writings. The following remarks from the preface to the present volume are characteristic of the author.

"I have endeavoured, accurately and faithfully to record the facts, which have fallen under my observation; and, in the advancement of knowledge, time cannot fail to show how far the conclusions, at which I have arrived, are well founded. I trust that I have sufficient love of science to lead me to desire nothing so much as the attainment of truth; and that I am not so vain as to believe that none of my views can be erroneous. Indeed, one principal result of my labours has been to convince me that life is not long enough for these difficult researches; that the utmost which can be accomplished by the zeal and industry of an individual is to make such progress in the study of pathology as may enable those who come after him to carry their inquiries farther; and that the expectations of any one who aims at higher objects than these must terminate in disappointment."

We need scarcely to recommend the work to the attention of the practitioner and student. To be ignorant of Sir Benjamin Brodie's writings would be inexcusable.

ART. XXII.—*The Hospitals and Surgeons of Paris. An Historical and Statistical Account of the Civil Hospitals of Paris, with Miscellaneous Information and Biographical Notices of some of the most eminent of the living Parisian Surgeons.* By F. CAMPBELL STEWART, M. D. New York: J. & H. G. Langley. Philadelphia: Carey & Hart, 1843, pp. 432, 8vo.

THIS volume reached us just as this sheet was preparing for press, and of course we have had an opportunity of merely glancing over its contents; but this rapid survey has revealed so much that is interesting in it, that we take advantage of a portion of a page at our disposal to invite the attention of the profession to it.

The design of the work is thus set forth by Dr. S., not very lucidly perhaps.

"Having experienced many inconveniences himself on his first arrival in Paris, from the want of correct knowledge as to the customs and habits of the place, and how to employ his time most advantageously, the author has endeavoured to supply it to those who may be going abroad; and besides the information in regard to their addresses, and the hours of admission to the various places of medical resort which is *interspersed* under different heads throughout the pages forming the first part, it will be seen that some sections have been composed for the benefit of this class of readers alone. A full list of the medical and scientific journals, published in Paris, has been introduced; and the Bibliographical Index will, it is hoped, prove useful to those who may be desirous of procuring French medical works."

The second part contains biographical notices of the principal living Parisian surgeons.

This volume constitutes not only the best guide we have seen for the American student visiting Paris, containing information not elsewhere to be found on record, but it presents a vivid picture of the existing condition of medical institutions, and the profession in Paris, which will be read with interest and instruction by the members of the profession generally in this country.

We have only room for one short extract more, and we select the following sentence from the preface, which needs no comment.

"The author has been requested to introduce into the work, a notice of the present condition of homeopathy in Paris; he regrets his inability to do so, from the circumstance of his being entirely ignorant of the estimation in which it is there held, never having heard it named, or made a topic of conversation amongst scientific men, or the intelligent portion of the French community, during the whole period of his residence abroad."



# SUMMARY

OF THE

## IMPROVEMENTS AND DISCOVERIES

IN THE

### MEDICAL SCIENCES.

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#### ANATOMY AND PHYSIOLOGY.

1. *Secretions derived from Venous Blood alone: a true Portal System in the Kidney.*—In an able paper in the "*Dublin Journal of Medical Science*," Dr. ALDRIDGE brings forward the view that a true portal system exists in the kidney, and that the peculiar secretion elaborated by that gland is, like the secretion of the liver, derived from venous blood, as asserted by Mr. Bowman in the "*Physiological Transactions*" of the past year. This view is so novel, and, at the same time, so well entitled to demand extended publicity, that its merits may be sufficiently canvassed, we do not deem it necessary to make any apology for introducing copious extracts, comprising the main points of the argument in the following columns. Dr. Aldridge states that in 1839 he remarked on "the improbability of the opinion generally entertained that urine is secreted from arterial blood. I asked why should the kidney differ from the other great emunctories in this particular? The liver and lungs secrete from venous blood; and is it not reasonable to think that in every instance the means of depuration should be implied to the *impure fluid*?.....Jacobson has discovered that in fishes and reptiles the urine is secreted by venous blood. Is it likely so great a difference could exist between the performance of this function in contiguous groups of all vertebrated animals?"

"Mr. Bowman, in a paper published in the '*Philosophical Transactions*' during the past year, has ascertained that the kidney is furnished with a true *portal system*; and that urine (like the bile) is secreted, in part, at least, from blood traversing, at the time, a second set of capillaries."

"According to him the exceedingly tortuous and convoluted urinary conduits terminate at their final extremities, each by a contracted neck, which conducts into a little chamber or cyst. In this cyst is contained the true glandule of Malpighi, which consists of a tuft or coil of capillary blood-vessels, totally naked, which originates in one of the ultimate branches of the renal artery, and terminates in an efferent vessel. Several of these latter form, by their anastomosing ramifications, the plexus that surrounds each urinary conduit and tubule; the urinary conduits are lined by thick epithelium, and their necks are furnished by vibratile cilia."

"All the blood of the renal artery," says Mr. Bowman, "(with the exception of a small quantity distributed to the capsule, surrounding fat, and the coats of the larger vessels,) enters the capillary tufts of the Malpighian bodies; thence it passes into the capillary plexus surrounding the uriniferous tubes, and it finally leaves the organ through the branches of the renal vein."

"Thus, there are in the kidney *two perfectly distinct systems of capillary vessels*; the 1st, that inserted into the dilated extremities of the uriniferous tubes, and in immediate connection with the arteries (the Malpighian bodies); the 2nd, that enveloping the convolutions of the tubes, and communicating directly with the

veins. The efferent vessels of the Malpighian bodies that carry the blood between these two systems, may collectively be termed the *portal system of the kidney*."

The former, which may be styled the Malpighian capillary system, is made up of as many parts as there are Malpighian bodies. These parts are entirely isolated from one another; and, as there is no inosculation between the arterial branches supplying them, the blood enters each in a direct stream from the main trunk. This capillary system is also highly remarkable; indeed, stands alone among similar structures, it being bare. The secreting tubes of the kidney, like those of all other glands, are, strictly speaking, an involution of the outer tegument of the frame; their interior is, in one sense, the outside of the body, their walls intervene between the vessels and the exterior, and, as it were, cover them in. But here is a tuft of capillaries extruded through the wall of the tube, and lodged in a dilatation of its cavity, uncovered by any structure; bare, indeed, yet screened from injury in its remote cell with infinite care and skill! Each separate part also of this system has but one afferent, and one efferent channel, and both of these are exceedingly small compared with the united capacity of the capillary tuft. The artery, in dividing, dilates; then follow branches which often exceed it in size, and which gradually break up into the finest. The efferent vessel does not usually even equal the afferent, and in size is often itself a capillary. Hence must arise a greater retardation of the blood in the tuft than occurs probably in any other part of the vascular system; a delay that must be increased by the tortuosity of the channels to be traversed.

"The other system of capillaries, or that surrounding the uriniferous tubes, corresponds, in every important respect, with that investing the secreting canals of other glands. It is well known to anatomists, and therefore does not require to be described at any length. Its vessels anastomose with the utmost freedom on every side, and lie on the deep surface of the membrane that furnishes the secretion.

"Mr. Bowman has been led to speculate on the uses of these two sets of capillaries that he has proved to exist in the kidneys of all animals; and he brings forward much ingenious argument to show that the uses of the Malpighian bodies is to secrete the watery portion of the urine. The analogy between the urinary conduits and the secreting part of other glands, leaves very little doubt of these organs being the essential discerning apparatus. But the naked capillary coil that constitutes a Malpighian body, placed in a cavity closed on every side, except where it communicates with the conduits, composed of vessels much greater in their aggregate capacity than the afferent or efferent vessels, presents an apparatus admirably adapted for excessive perspiratory action; and when, in addition, we find cilia arranged to facilitate the current of a fluid, we can scarcely deny that Mr. Bowman's hypothesis is a very feasible one."—*Lancet*, 29th April, 1843.

2. *Congenital closure of the descending Aorta*.—Dr. WISE relates in the *Bengal Transactions* the following example of the obliteration of the principal arterial trunk of the body, without its producing any apparent marked effect on the size or strength of the parts upon which the artery was distributed from the circulation being carried on by anastomosing vessels.

A strong middle-aged native, while walking, suddenly fell down, and expired. Dr. Rae, who gave Dr. Wise this preparation, examined the body, and found a large quantity of blood in the cavity of the chest. In following the course of the aorta, which was found enlarged; after leaving the heart, and giving off the innominate, and the left carotid and subclavian arteries, it suddenly contracted for a line in breadth, as if a ligature had been passed tightly round it; and on examination it was found there to be completely imperious under the ductus arteriosus, which was also closed. Immediately under this point the aorta appeared of its natural size, into which several enlarged arteries poured in their blood. The left ventricle was much thicker in its parietes than natural; and on laying open the enlarged ascending aorta immediately

after its leaving the heart, it was found torn in its internal coat for an inch and a half, commencing a short distance above the semi-lunar valves, and extending obliquely upwards. By this torn part, blood had been forced between the cellular and muscular coats and into the cavity of the chest, causing the sudden death of the individual.

Where the left carotid artery divided into the external trunk, an incipient aneurism appeared, in the form of a semicircular swelling. On examining this more carefully, it seemed to be formed by the blood forcing out the arterial pariete without having destroyed the fibrous coat. This is by no means a solitary instance, as Hodson has delineated one of the same kind; and Dr. Wise believes a more extended and careful examination will prove that this is the usual manner in which aneurisms commence. The enlargement of the ascending aorta is another example of the same kind.

The circumference of the different vessels in the case under review, are as follows:—

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| The greatest external circumference of the aorta near its origin in inches | 4.75 |
| Aorta, after giving off the left subclavian                                | 1.15 |
| — immediately under the strictured ditto                                   | 2.72 |
| Left subclavian ditto                                                      | 1.45 |
| — carotid ditto                                                            | .52  |
| Innominate ditto                                                           | 1.50 |

Dr. Wise conceives that the closure of the aorta in this case was congenital.

3. *Malformation of Heart*—this organ consisting of only two cavities—no cyanosis.—A child in the Foundling Hospital of Paris was observed to be often affected with great difficulty of breathing, with a quick dry cough, and especially when it drank, a state threatening suffocation ensued. The child was large, and externally well formed; but it died in eleven days, apparently of umbilical phlebitis.

On opening the pericardium, the heart was found altered from its natural form, being bag shaped, or rather rounded at the place of the apex, and to consist of only one auricular and one ventricular cavity. Viewed from the front, the pulmonary artery was quite hidden by the aorta, which originated from the right and anterior portion of the ventricle, and by the auricular appendices, for of these there were two well-formed, though only one auricle. A line directed obliquely backwards, and from right to left along the base of the ventricle, would have crossed first the opening of the aorta, next that of the pulmonary artery, and lastly, the auriculo-ventricular opening. The spleen was large, but none other of the viscera or portion of the circulatory apparatus presented any anomaly. No cyanosis had been noticed during life.—*Archives Gen. de Med.*, Feb. 1843.

4. *Movements of the Heart*.—M. MONOD had an excellent opportunity of examining the movements of the heart in an infant, which was born with thoracic ectopia, the parietes of the thorax being deficient, and the heart being visible to the eye. The pericardium also was wanting. The child lived 14 hours, but during this time many important facts were ascertained.

The contractions of the ventricles of the heart did not take place over its whole surface at the same moment, but progressed from the base to the apex; at the same time the organ became of a pale colour, its surface wrinkled, a movement of twisting from right to left was observed, and lastly, the apex of the heart was carried upwards and forwards.

The diastole presented the same phenomena, but in an opposite order. The heart relaxed suddenly; then the ventricular cavity became filled with blood, swelled out, became elongated, and the apex was projected downwards. If the total duration of these two movements were divided into four equal spaces of time, it would be seen that the systole occupied three of these, the diastole only one.

The contractions of the auricles commenced in their free appendices; but in



them the duration of the contraction and relaxation were in the inverse ratio of those of the auricles. The systole, or contractions, occupied only one-fourth of the time; the diastole, or relaxation, three-fourths.

With regard to the order of the succession of movements, both ventricles contract at the same time, and both relax together; it is the same with the auricles. There are two periods of repose; one, which is the shortest, is between the first and second sound; the other, which is the longest, between the second sound and the first.

In this case the maximum of intensity of the first sound did not occur at the base of the ventricles, but at the middle of their fleshy walls; and M. Monod thinks that it was caused by the shock of the walls of the ventricles against the internal fleshy columns at the moment of contraction. As to the second sound, he thinks it was due to the return of the wave of blood against the sigmoid valves.—*Ed. Med. & Surg. Journ.* July 1843, from *Bullet. de l'Acad. de Med.* 7th Feb. 1843.

5. *Facts Relative to the Corpuscles of Mammiferous Blood.* By MARTIN BARRY, M. D.—No observer can learn the structure of the blood-corpuscles, who does not carefully investigate their mode of origin, and patiently follow them through all their changes. Where are these changes to be seen? Not in blood taken from large vessels, which are merely channels for conveying it, but in that contained, and almost at rest, in the capillaries,—and especially in the capillary plexus and dilatations; a remark which I believe is new, though many figures published by myself in the *Philosophical Transactions* show the observations on which it is grounded to have been long since made. But there is another source from which my information has been obtained—the large cells in the ovum. From these the corpuscles of the blood seem to have descended; and they undergo changes essentially the same.

1. The mammiferous blood-corpuscle, like one of the cells of the ovum, is at first a disc, or what is now called a “cytoblast,” *i. e.* a cell-germ. It is not a flattened vesicle or cell. Like other discs or cytoblasts, however, it may and does become a cell; but then it is no longer flat. In the blood-disc you see a central, colourless, concave portion, around which lies the red colouring matter.

2. As usually met with, the blood-disc is round, with the exception of two or three instances in which, from the observations of Mandl in France, and Gulliver in this country, it has been discovered to be *elliptical*. I have since found that even in mammals, where the blood-disc is usually met with round, *its original form is elliptical*. I have seen this to be the original form of the blood-disc in man.

3. The discs first become round, continuing flat; subsequently they pass into an orange-shape, and lastly become globular. They also very much increase in size.

4. Along with these alterations in the form and size of the blood-discs, there takes place another change. Instead of a mere concavity, there is now seen a colourless, pellucid, semi-fluid substance; which, as the corpuscle becomes orange-shaped, is found to be, not in the centre, but *on one side*. It is the nucleus of the corpuscle—the corpuscle itself having become a cell. This pellucid substance or nucleus divides into and gives off globules. Each globule, appropriating to itself new matter, becomes a disc; and each disc, undergoing changes like the first, gives origin to other discs, a group of which constitutes the colourless corpuscle of the blood; for, with the changes now mentioned, the red colouring matter is consumed. Thus, as the red pass into the colourless corpuscles, there must exist all intermediate stages; between them no line of distinction can be drawn.\*

\* The colourless corpuscles in other vertebrata, for instance the batrachians, being much smaller than their red corpuscles, cannot be these red corpuscles in an altered state. Nor is any such change to be expected here. The red corpuscles usually seen circulating in these animals are not, as in mammalia, *discs*, but *nucleated cells*. Some

5. The corpuscles of the blood are propagated by means of parent cells. A parent cell has its origin in a colourless corpuscle; this colourless corpuscle being an altered disc. As the parent cell is forming, the new discs within it gradually become red, and are at length liberated to give origin in like manner to new discs, or to be appropriated in some other way.

6. From sect. 4, it will be seen that the disc, or so-called "cytoblast," is originally a pellucid globule; which globule therefore is the true cell-germ.

7. Sometimes the quantity of the pellucid substance in the blood-cell is very much increased. This takes place at the expense of the red colouring matter which surrounds it. The blood-corpuscles, now cells, I have seen in various parts collected until the capillaries were completely filled with them, and until they had become pressed together into many-sided objects. In have met with vessels at the edge of the crystalline lens, some parts of which presented no other than the pellucid semifluid substance, arisen in the manner now described, and no longer contained within the cells.

8. This originally colourless substance, derived from the nuclei of blood-cells, and nearly filling the capillaries as I have found it, appears to constitute the essential part of coagulable lymph, to organize the same, and to give origin to the tissues, &c. in the manner I have elsewhere described. It seems to be this same originally colourless substance, derived from the nuclei of blood-cells, that forms the exudation-corpuscles of authors, the fibres of false membrane, and the filaments in coagulating blood—filaments which, as I have shown, here and there arise while this substance is still within the cells.—*Lond. Edin. and Dub. Philos. Mag.*, May 1843.

6. *Influence of Asphyxia on the Secretion of Bile.*—Professor BOUSSON of Montpellier, has made some experiments to ascertain the influence of asphyxia on the secretion of bile, and the results prove that slow asphyxia in producing venous congestion of the liver, far from diminishing the biliary secretion as asserted by Bichat, on the contrary, strikingly increases it. The physical characters of the bile are also altered, this fluid assuming a darker colour, becoming sanguinolent, or even black; and its consistence is also increased, which characters appertain to highly carbonized bile. This change is explained by the fact that the lungs and liver are the two outlets by which carbon is eliminated from the system; and the gradual suspension of the function of the lungs in slow asphyxia, produces an exaggeration of the supplementary function performed by the liver.—*Journal de la Soc. Méd. Prat. de Montpellier*.

7. *Absorption of Iodine.*—M. LEON BROUSSE has tested the urine of several patients who had been treated for hydrocele by the iodine injection. In every instance he was readily enabled to discover the metalloid in the urinary secretion by the third or fourth day after the operation, and in one instance, at least, as early as the second day. In this case, that of a Spaniard, forty years of age, the scrotum continuing swollen, and evidently containing fluid five weeks after the operation, it was punctured with a lancet, and a sanguinolent fluid evacuated, which, on being subjected to the usual tests, yielded evident indications of the presence of iodine.—*Journ. de Chimie Méd.* Dec., 1842.

of these nucleated cells, however, give origin to discs having very much the same form, size, and general appearance as the blood-discs of the mammalia. In the frog I saw such discs passing into the state of colourless globules, which, acted on by acetic acid, presented just the same appearance as the colourless corpuscles of the human subject.

## MATERIA MEDICA AND PHARMACY.

8. *Acetic extract of Cantharides.* By M. SOUBEIRAN.—The acetic extract of cantharides has been long used in Germany, and is considered as the best and most efficacious preparation yet made. This preparation is made in the following manner: take 4 parts, by weight, of cantharides powder; 1 part of concentrated pyroligneous acid, and 16 pints of alcohol; digest at a temperature of about 90°; express the fluid; filter and distil off the alcohol at a gentle heat. A syrup-looking extract, of a buttery consistence, is left—the acetic extract of cantharides. It is powerfully vesicant. It is only necessary to spread a thin film over paper, and apply it directly to the skin, when it rapidly causes free and full vesication. The presence of the acetic acid in this preparation prevents the cantharidine from crystallizing,—a circumstance which is a great inconvenience in the ethereal extract, rendering its application not always certain.—*Edin. Med. & Surg. Journ.*, July 1843, from *L'Experience*, April 1843.

9. *Ammoniacal solution of Ergot of Rye.* By W. R. GORE, M. D.—Into half a pint of aromatic spirits of ammonia, I put four ounces of fresh ergot of rye, bruised coarsely. I allow this to stand for a month, frequently stirring the ingredient with a glass rod in the fluid; after which I squeeze every drop of the spirit out of the rye. The “ammoniacal solution” thus made, has a fine dark colour, and looks inspissated. In a glass-stoppered bottle it may be preserved for any length of time without deterioration of power. This solution contains all the active principles of the rye in a convenient form, and increased efficacy, the ammonia causing the ergot to act more rapidly, and with greater certainty. I administer 30 drops of it in a wine-glass of cold water, every ten minutes, until the action required is sufficiently developed, applying gentle pressure with the flat of the hand, to the abdomen, when the pains are present. Three such doses have, in the majority of cases which came under my observation, proved sufficient; but circumstances will now and then alter the requirements, as in other branches of medical practice in respect to various remedies.—*Medical Times*, Nov. 5, 1842.

## MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

10. *Mercurial Salivation cured by Nitro-muriatic Acid baths.*—A case of salivation in a child four years of age, resulting from the use of mercurial frictions employed for the cure of meningitis, is related by Dr. BAUMGARTNER in the *Journ. des Connaiss. Med. Chirurg.* (March, 1843). The salivation was excessive, and for two months and a half resisted all the usual remedies employed to control it. M. B. then prescribed warm baths, slightly acidulated with equal parts of nitric and muriatic acid, and after the third bath the salivation ceased and did not return.

11. *Abortive method of treatment for Zona.*—M. MONNARET has employed the plaster of Vigo with success in the treatment of zona. The plaster was applied over the whole surface of the skin affected, and the incipient vesicles speedily arrested in their development, and those already formed rapidly desiccated.—*Journ. de Med. et de Chirurg. Prat.*, Oct. 1842.

12. *Herpetic Pruritus.*—Dr. BAROSCH has cured a case of herpetic pruritus of the perineum and scrotum, which for twelve years resisted various remedies, and caused the greatest discomfort to the patient, by the following solution:—R. Iodine, gr. xv., hydriod. potass. ℥ij.; solve in aq. distill. ℥v. alcohol, ℥j. M. This solu-



tion applied to the parts, in three weeks effected a complete cure.—*Gaz. Méd. de Paris*, Jan. 28th, 1843, from *Oesterreichische Med. Wochens.*

13. *Pruritus of the Vulva*.—This is a not unfrequent and a most distressing complaint. In the treatment of it, M. LISFRANC places his chief reliance on an occasional bleeding from the arm. Lotions of alum, or of nitrate of silver, are sometimes very useful; but on the whole, M. Raspail's remedy—five parts of starch and one of camphor—is still better as a local application. It may be applied two or three times a day; the proportion of the camphor should be made to vary, according to the irritable state of the affected parts. Fumigations with the vapour of sulphur will sometimes effect a cure, when all other remedies fail. Let it ever be remembered that pruritus of the vulva is not unfrequently connected with some morbid affection of the uterus, and therefore that our chief attention must be directed to the removal of the cause. An opiate enema is sometimes a valuable remedy. M. Lisfranc alludes to a very obstinate case, where a very rapid cure was obtained from the administration of sulphate of quinine, after other means had quite failed.—*Med. Chirurg. Rev.*, April, 1843, from Lisfranc's *Clinique Chirurg.*, tom. ii.

14. *Epilepsy, caused by Lumbrici*.—Dr. MICHEL records in the *Journal des Connaissances Médicales* (Sept. 1842) the case of a girl 10 years of age, who had been subject to epileptic attacks for five years, which entirely ceased after the expulsion from the intestines of a number of worms.

15. *Galic Acid in Menorrhagia*.—Professor SIMPSON stated at a meeting of the *Med. Chirurg. Soc. of Edinburgh*, April 19th, that for the last year he had employed gallic acid in some cases of menorrhagia, with the most successful results. Like all other remedies directed against that disease, it had also occasionally failed in his hands. Some of the cases which had completely yielded under its use were of an old standing, and aggravated description. He gave it during the intervals, as well as during the discharge, in doses of from ten to twenty grains per day made into pills. It had this advantage over most other anti-hemorrhagic medicines, that it had no constipating effect upon the bowels. He was first induced to use it from finding a case of very obstinate menorrhagia get well under the use of Ruspini's styptic, after many other remedies had utterly failed, and from it being alleged that gallic acid was the active ingredient in that styptic. He suggested whether the anti-hemorrhagic properties of some of our common astringent drugs may not depend upon the gallic acid as much or more than upon the tannin which they contain, or upon the tannin becoming changed into gallic acid within the body.—*Lond. & Edin. Monthly Journ. Med. Sci.*, July, 1843.

16. *Pneumonia of Children*.—The *B. & F. Medical Review* for April last, contains an interesting report on the Pneumonia of children, as it prevails among the poor in London, by CHARLES WEST, M. D. We extract from it the following remarks on the treatment of the disease.

"I will now endeavour to sum up as briefly as possible, what I think I have learned of the *treatment* of this disease by careful and unprejudiced observation. I do so, however, with great diffidence, for I feel that none but they who have grown gray in the practice of their profession, and who can preface their remarks by appealing to 'lengthened meditation, and to the diligent and faithful observation of many years,' are in a position to claim for their opinions on such a subject any consideration. I can only plead my excuse, in the words of Sydenham; if indeed there be not something of presumption in borrowing the expressions of that great man: 'Ceterum quantacunque fuerint aliorum conamina, semper existimavi mihi vitalis auræ usum frustra datum fore, nisi et ipse in hoc stadio versatus, symbolum aliquod, utcumque exiguum, in commune Medicinæ ærarium contribuerum.'

"*Depletion*. The first rank as a curative agent in the treatment of idiopathic

pneumonia, I would unhesitatingly assign to depletion. It is true indeed that on this, as on some other points, my experience differs from that of French writers who have studied the disease at the children's hospital at Paris. One of these gentlemen\* has affirmed that depletion, whether general or local, invariably debilitates the organism, and accelerates the fatal event. True as this assertion may be of pneumonia occurring under the peculiar circumstances which that institution presents, it cannot be extended to it as it is seen in this country. In no case of idiopathic pneumonia which came at an early stage under my notice, have I had occasion to regret the employment of depletion carried so far as sensibly to affect the system. In children of two years old and upwards I have usually resorted to venesection; but in younger subjects have contented myself with the application of leeches. From a child of two years old I have been accustomed to take  $\frac{1}{2}$ iv. of blood, and to direct the application of four or six leeches beneath the scapulæ if the symptoms should appear unrelieved after the lapse of a few hours. The effects produced by one bleeding in some of these cases have been most striking; the violent symptoms have sometimes yielded at once, and recovery has gone on uninterruptedly almost without the employment of any other remedy. Of the frequent repetition of bleeding in *these cases*, whether from the arm or by leeches, I have no experience, but my conviction is that children *generally* bear repeated bleedings ill, and I therefore do not practise them. That form of pneumonia which develops itself out of catarrh appears to be least under the control of depletion; no instance having come under my notice in which the attack was cut short by its employment, though here too, local bleeding at the outset is often beneficial.

"*Tartar-emet.* The tartar-emetie is a remedy of great value in the treatment of pneumonia; but I can by no means subscribe to the unqualified recommendation of it by some French physician in all forms and at all stages of the disease. I would rather say of it what Wolfgang Wedel says of opium, "*Sacra vitæ anchora, circumspicte agentibus, Cymba Charontis in manu imperiti.*" The cases in which it has seemed to me to be of the greatest service were those in which the pneumonia developed itself out of previous catarrhal symptoms, or in which it supervened on measles, or came on in the course of whooping-cough. In such cases, antimony given in doses of a quarter of a grain to a child of two years old, repeated every ten minutes, till free vomiting is produced, and afterwards continued every two or three hours for forty-eight or sixty hours, has often appeared to be of the most essential service, and the preservation of the patient's life has seemed in several instances to be due to its employment. In pneumonia, too, which has not been preceded by catarrhal symptoms; if after venesection the respiration still continues as hurried as before, and the condition of the patient has been apparently but little improved by that measure, tartar-emetie has seemed to be extremely useful. I have been accustomed to give it in large doses, as a quarter of a grain for a child two years old, and to repeat it every two hours for twenty-four hours, and have observed its use to be followed by a great diminution in the frequency of the respiration, and considerable relief to the distress of the patient; and believe that when given in these cases it paves the way for the advantageous employment of mercury. In no instance, however, in which pneumonia had been neglected, so that the period for depletion was past, and in which distinct bronchial respiration was audible, have I seen beneficial results from the employment of antimony in large doses, as recommended by many French practitioners. It is true that the heat of skin will subside and the respiration will diminish in frequency; thus inducing a treacherous appearance of improvement; but the strength of the patient is seriously impaired by it, the occurrence of a comatose condition, or of what the Germans have called the paralytic stage, will be hastened, and the fatal event accelerated, as I have learned by sad experience in cases where I gave this mode of treatment a full trial. It is not meant, however, that after the supervention of bronchial respiration, antimony ought never to be given, but only that under such circumstances

\* M. Becquerel, in the Archives Générales de Médecine, 1839, p. 471.

it has appeared to me that it should not be employed except in small doses and in combination with other remedies.

*Calomel.* A very high rank as a remedial agent in the treatment of idiopathic pneumonia must be given to calomel. I have been accustomed, after due depletion, to administer calomel in doses of two grains, combined with a quarter of a grain of tartar emetic, and half a grain of Dover's powder, and to repeat it every four hours for children of four years of age; diminishing the antimony after the lapse of twenty-four hours, if distressing sickness were occasioned by it, but persevering in the use of the calomel, provided the patient were not over-purged, until the disease began to yield or the gums showed signs of the mercurial action. The latter occurrence has been by no means frequent, and in no instance have I met with dangerous mercurial affection of the mouth from the employment of calomel in these cases. It has always been my custom to suspend the use of calomel for twelve hours immediately on the first appearance of mercurial affection, and if after the lapse of that time the signs of mercurialization had not increased, to return to its use in smaller doses, and repeated at longer intervals, provided the symptoms of pneumonia were so urgent as to demand its continuance. I have oftener been harassed by the purging which calomel induces, though this may be in a great degree controlled by combining it with Dover's powder. Besides the inconvenience and danger attending over-purging, calomel has seemed in some instances, especially in infants, to occasion a very harassing nausea and vomiting, which have rendered its discontinuance necessary, lest the patients should suffer from the want of sufficient nutriment. In such cases I have had recourse to mercurial inunction, and under its employment recovery has taken place even where circumstances had seemed to warrant none but a most unfavourable prognosis. It is especially in cases of neglected pneumonia, where the time for depletion has long gone by, where the administration of antimony is evidently contra-indicated by the exhausted state of the patient, and where the existence of diarrhœa forbids the employment of calomel, that the full value of this remedial agent is seen. I have employed it in the proportion of ʒj. rubbed into the thighs or axillæ every four hours, in children of four years of age. I have never observed salivation induced by it, but have seen the symptoms gradually diminish in severity during its employment, and the solid lung become once more permeable to air.

*Stimulants.* Usually, when the employment of mercurial inunction is indicated, the time for all directly-depressing measures has long passed, and the best means of supporting the patient's strength become matter for serious consideration. No point in the treatment of the disease is more difficult than that of seizing the exact moment when the employment of stimulants becomes necessary, and no general rule for regulating their use, can be laid down. It has, however, appeared to me to be seldom safe to withhold them when extensive bronchial respiration exists in a case on its first coming under the care of the practitioner, or when it has supervened in spite of active antiphlogistic treatment. If the patient too, is beginning to be much purged; if the respiration is becoming more laboured and irregular, though diminished in frequency; and if the pulse is becoming more frequent and above all smaller and smaller, it is high time to resort to their use. Wine is as indispensable in such cases in the pneumonia of children as that of the adult, and it may be necessary to give it even to infants at the breast. Ammonia may also be advantageously administered in this stage of the disease, either in a mixture with the decoction of senega, or dissolved in milk, which conceals its disagreeable pungency better than any other vehicle. If diarrhœa does not exist, strong beef-tea or veal-broth is the best form in which nutriment can be given; but if the bowels are relaxed, arrow-root, or the *decoc-tion blanche*\* of the French hospitals should be substituted for it.

*Blisters.* Blisters would probably be employed about this time in the treat-

\* This, which is similar to the white decoction of Sydenham, is prepared by boiling half an ounce of hartshorn shavings, and the inside of a roll, in three pints of water, till reduced to a quart.



ment of pneumonia in the adult, but I cannot recommend their application in children. One objection to them arises from the time which elapses before they rise sufficiently, during the greater part of which they inflict considerable pain on the little patient, and make him extremely restless. The sores they produce when they cause vesication are sometimes very dangerous; they may even become gangrenous, and occasion the patient's death. Even if no such unfavourable results follow, they are nevertheless a source of constant annoyance to the child, at first from their soreness, afterwards from the troublesome itching which is felt when they begin to get well. Some pain is unavoidably produced whenever the dressings are changed, and the frequent repetition of this painful process sometimes makes the child take a dislike to its attendants, who seem to it to be the causes of so much suffering. It becomes suspicious of every one and quite unmanageable, while nothing is of greater moment than that a sick child should retain its fondness for its attendants during the whole period of its illness.

"*Mustard-poultices.* It is quite possible that some of these objections may be obviated among the children of the wealthy by that care and those comforts which riches can always command, but I have been led, by the reasons above stated, to discontinue the employment of blisters in the treatment of pneumonia among the children of the poor. The same objections do not apply to the employment of mustard-poultices, and in many instances they have seemed to be productive of great good. They produce a much more speedy effect than blisters, and may be applied with safety over a much larger surface, hence they are often of signal benefit in relieving sudden accessions of dyspnoea; while from their not occasioning any breach of surface they may be reapplied as often as the emergencies of any case require.

"Of the subsidiary medicinal agents, such as ipecacuanha and the class of expectorants, nothing need be said; but there are one or two points in the general management of the disease not altogether unworthy of notice.

"*General management.* It is desirable, in all cases of pneumonia at all severe, that infants should be taken from the breast, and that the mother's milk should for a time be given them from a spoon. This is of importance on two accounts; partly because the thirst they experience induces them to suck overmuch, (hence it is well that barley-water or some other diluent be given to them frequently instead of the milk, in order that they may quench their thirst without overloading their stomach;) partly, because the act of sucking is in itself mischievous, since, as must at once be perceived, it taxes the respiratory functions to the utmost.

"A second important point is never to allow the children to lie flat in bed or in the nurse's arms, but to place them in a semi-recumbent posture in the arms, or propped up in bed. By so doing respiration is facilitated, since the diaphragm is relieved from the pressure of the abdominal viscera, and that stasis of the fluids in the posterior parts of the lungs is prevented, which has been shown by French writers to be so prejudicial to infants or children labouring under pneumonia.

"The only other point to which I will allude is, that when pneumonia has reached an advanced stage, or has involved a considerable extent of the lungs, the children should be moved only with the greatest care and gentleness, lest convulsions should be brought on. Whatever may be the explanation of this occurrence, the danger is by no means an imaginary one, for I have seen instances in which children have been seized with convulsions immediately on being lifted somewhat hastily from bed and placed in a sitting posture; and on this account I have referred to what might seem to be a trivial matter."

17. *Statistics of Epilepsy.*—The following facts are taken from the first part of an interesting paper on this subject, by M. LEURET:—

Among 106 cases of epileptic patients, 24, or nearly one-fourth, began to be affected between the 10th and 14th year of their age; 18 were first attacked between their 15th and 19th year, and 16 between their 20th and 24th year; 58 patients, consequently, of the whole number were first attacked between their 11th and 24th years. Of the 106 patients, the disease was ascertained to have existed either in the father or mother in 6 instances only. And in no more than

8 cases was it found that the parents had died of any disease of the brain; there was insanity thrice; apoplexy twice; paralysis once; suicide once; meningoccephalitis once. Of the 106 patients, 30 had been drunkards; 21 masturbators; and 15 addicted to women. The actual or presumed cause of the first attack was ascribed to terror, in fifteen cases; to onanism in twelve; to drunkenness, in six; to anger, in two; to distress, in two; to falls, in two; to libertinage, in one; &c.; 30 of the 106 patients had an attack very regularly once a fortnight; 17 suffered attacks once a-month; 13 once a-week; 9 every three or four days; 4 almost every day; 2 every day; 1 every two months; 3 every three months; and 24 at very irregular intervals. In 35, the attacks supervened in the night especially; in 29, they were as frequent in the day as in the night; in 12, they frequently occurred in the day; in 8, they occurred during the day only; in 8, in the night only; in 3 in the morning only; in 3 others, generally in the morning; and in 1, in the evening only.—*Prov. Med. Journ.* 29th July 1843, from *Archives Générales*, May 1843.

18. *Influence of Menstruation on the milk of nurses, and on the health of the infants they suckle.*—A memoir on this subject was read before the French Acad. of Medicine, by M. RACIBORSKI on the 30th May last.

The opinions of physicians are divided as to the influence exerted by menstruation on the milk of nurses and the health of their infants. Some think that menstruation has no injurious effect in this respect; others are of opinion that there is no general rule on the subject, and that the state of the health of the child is the only guide; while others again, with M. Gendrin, would not, under any circumstances, permit a woman to continue nursing after the catamenia returned. According to M. Gendrin, the milk, under the influence of the menstrual evacuation, becomes decidedly impoverished, the globules being smaller, less numerous, and mixed with granulations of *colostrum*; and the infant consequently becomes debilitated, affected with diarrhoea, and progressively wastes away, because of the diminution in the nutritive qualities of the milk.

It would certainly seem reasonable to be guided by the condition of the child, and such a guide may indeed be practically sufficient. The scientific question is, however, worth being cleared up; and taking a case where a child's health does suffer, it would be satisfactory to know whether its indisposition was really due to any change effected in the milk by the influence of menstruation.

M. Raciborski examined the milk of seven women whose menstrual evacuation continued during either the entire or a part of the time that they were nursing. He took care always to examine the milk before the infant had sucked; and at least two specimens of the milk of each of the women was examined—one being taken while the catamenia were flowing—the other in an interval between the menstrual periods. The examination of the milk was chiefly directed—to its external aspect—its chemical reactions—its density before and after the separation of the cream—the space occupied by the cream in Chevalier's graduated tube; and finally, the relative diameter of the globules under the microscope. Similar observations were made on the milk of females whose menstruation was suspended.

The children nursed by the menstruating females enjoyed the most perfect health. Two of these women presented peculiarities worthy of notice; one could nurse with one breast only, the secretion of milk being suppressed in the other, in consequence of a phlegmon that supervened shortly after delivery, and yet, though her poverty was extreme, her child was vigorous and in perfect health: the other menstruated a month after delivery, and continued to do so every month since, the secretion of milk was nevertheless established the third month after her confinement, and she then began to suckle her child, who had been previously at nurse, and was thriving very badly. Notwithstanding all these circumstances, the trial succeeded completely, the mother had an abundant supply of milk, and the child's health soon became completely restored.

It results from these researches—

1. That, contrary to late opinions, the milk of menstruating nurses does not

sensibly differ, in physical, chemical, or microscopical characters, from the milk of females whose catamenia are suspended.

2. The only difference that can be at all detected between these two kinds of milk is, that in most cases the milk of menstruating nurses contains less cream during the menstrual periods, than in the intervals between those periods; and hence arises the bluish appearance presented occasionally by such milk.

3. That a nurse should never be rejected merely because she menstruates.—*Dublin Med. Press*, Aug. 2, 1843.

19. *On Abnormal Sounds in the Ear.* By G. KRAMER, M. D., of Berlin.—The occurrence of accidental or abnormal sounds or noises in the ear has been accounted for in three ways. 1. It is said that sound is caused in the interior of the organ of hearing; 2. That it arises from condensation of air in the cavity of the tympanum; and 3. It depends on tension of the membrana tympani.

Although experience has never demonstrated the existence of aneurismal dilatation of the small vessels of the internal ear, and although the small calibre of the vessels must render such an accident very improbable, yet Itard seems disposed to admit it in certain cases giving rise to the development of certain sounds in the interior of the ear. This, however, is a mere hypothesis. The pulsations of which some plethoric individuals complain, have likewise been explained by distension of the arteries of the ear; but it is much more probable that sounds of this kind are produced in the sinuous canals through which the blood-vessels pass to the brain, and that they are rather felt in the head than heard in the ear. The same remarks is applicable to the sounds which attend aneurism of the primary carotid and arch of the aorta, or hypertrophy of the heart.

As to condensation of air in the cavity of the tympanum, it is impossible to conceive how such an effect could be produced. Previous obliteration of the Eustachian tube must coincide with such an accident; but then the retained air would be dilated by the natural heat of the body, instead of being condensed. Now, dilatation of the air in the cavity of the tympanum is not a cause of "singing" in the ear, for this symptom is as often absent as present in cases of obliteration of the Eustachian tube.

The third alleged cause is likewise inadmissible. The membrana tympani is always in a state of tension, in healthy persons free from the noises alluded to; it is of a shining hue, and very convex outwards; I have never seen this membrane more tense than it should be in several hundreds of patients whom I have examined with the greatest care, and I am unacquainted with any symptom indicative of this pretended excess of tension. The only alterations which it presents are changes of texture; we find the membrana tympani thickened, inflamed, destroyed in part or in whole, opaque, rough, covered with vegetations, &c., without being able to trace any connection between these organic lesions and the production of abnormal sounds in the ear.

It has been affirmed that all obscurity in the diagnosis of increased excitability of the auditory nerve, as a cause of abnormal sound, ceases as soon as the symptom becomes connected with deafness. By deafness we are here to understand diminution and not a complete loss of the power of hearing; for mention is made of deafness which has suddenly ceased on the disappearance of the sounds, while the sudden disappearance of true deafness is a thing absolutely impossible. But deafness (or rather hardness of hearing), accompanied by irregular noises in the ear, is not dependent on some affection of the auditory nerve alone. It is accompanied by various diseases of the auditory apparatus, and this so often, that we cannot admit from the coexistence of deafness with abnormal sounds that the latter depend on increased sensibility of the auditory nerve.

To prove this assertion I have taken from my note-book one thousand cases of diseases of the ear, and I have classed them in two series, according as they were or were not accompanied by accidental sounds; the species of disease was noted in each case after careful examination. The following are the results obtained:—



|                                                                                  | With Sounds. | Without Sounds. |
|----------------------------------------------------------------------------------|--------------|-----------------|
| Erysipelatous inflammation of the meatus and obstruction<br>by cerumen - - - - - | 72           | 22              |
| Inflammation of the glandular apparatus of meatus -                              | 11           | 10              |
| Inflammation of its cellular tissue - - - - -                                    | 8            | 0               |
| Inflammation of its periosteum - - - - -                                         | 8            | 3               |
| Acute inflammation of membrana tympani - - - - -                                 | 3            | 1               |
| Chronic inflammation of membrana tympani - - - - -                               | 95           | 81              |
| Congestion of Eustachian tube - - - - -                                          | 40           | 44              |
| Contraction of Eustachian tube - - - - -                                         | 11           | 8               |
| Obliteration of Eustachian tube - - - - -                                        | 2            | 0               |
| Inflammation of cellular tissue of cavity of tympanum                            | 2            | 1               |
|                                                                                  | <hr/> 245    | <hr/> 170       |
| Increased sensibility of auditory nerve - - - - -                                | 462          | 123             |
|                                                                                  | <hr/> 707    | <hr/> 293       |
|                                                                                  | <hr/> 1000   |                 |

In all these cases the power of hearing was more or less diminished. In 707 of them the deafness was accompanied by abnormal sounds; and we should, therefore (if the doctrine alluded to be true), admit increased excitability of the auditory nerve; but this was absent in 245 of the 707 cases. The coexistence of deafness and "singing" in the ears is not, therefore, a certain sign of exalted excitability of the acoustic nerve, since it does not occur in 245 out of 707 cases; while of 585 cases, in which this increased excitability did exist, 123 were unattended with any trace of abnormal sounds in the ear. The mistake of writers on this subject depends on their explanation of abnormal sounds considered as a symptom of disease.

From the numerous observations which I have made, it appears to me that the duration and interruption of these sounds, their intensity, weakness, and infinite degrees of diversity are in no way connected with any particular affection of the auditory apparatus. The same individual may labour under the same form of disease in both ears, yet he shall hear the sounds on one side and be free from them on the other. Hence we must conclude that the cause of these sounds remains enveloped in the greatest obscurity, and that we cannot attach to them the slightest importance in the diagnosis of the diseases of the ear. Some writers tell us that when the affection is confined to a single ear it announces some lesion of the peripheral extremity of the nerve; but that when both ears are attacked, and especially if some trouble of vision coexist, we may conclude that the central extremity of the nerve is implicated.

I can affirm that the occurrence of accidental sounds in the ear on one side as well as on both is observed in various diseases of the auditory apparatus, without any sign that the auditory nerve has suffered, either in its peripheral or central part. On the other hand, increased excitability of the auditory nerve almost always attacks both sides at the same time (or at least very nearly so), and gives rise to a remarkable change in the moral faculties, to depression of spirits, nervous headache, disinclination to study, and disturbance of the sleep, without any proof that the central part of the auditory nerve is affected. That such is the case is proved by the immediate benefit obtained in this form of disease by use of gentle excitants, directed, in the form of vapour, towards the peripheral extremity of the nerve, through the Eustachian tube, the cavity of the tympanum, and the fenestra ovalis.

As to coincidence of this state with disordered vision, I am convinced that the latter depends on some change near the origin or trajet of the optic nerves, which has no connection with any analogous change in corresponding portions of the auditory nerve.

It has been said that deafness connected with accidental sounds in the ear presents the following peculiarity:—Compression of the carotid arteries dissi-

pates the false sounds and the deafness with them. I have never seen any example of this kind, nor is the assertion supported by a single case. Itard, indeed, cites one case, but it is far from conclusive. On compressing the carotids he succeeded in almost entirely removing the abnormal sounds; but he does not tell us that the accompanying deafness was *almost entirely* removed with them.

In the treatment of this affection local and general blood-letting is commonly employed, from the idea that it is connected with congestion; but we cannot admit the propriety of this mode of treatment if we reflect on the variety of diseases with which the existence of abnormal sounds in the ear is connected. In cases of nervous deafness blood-letting would be certainly injurious; it would have a very doubtful effect on the sounds, and would inevitably increase the deafness.—*Prov. Med. Journ.*, Feb. 11, 1843, and *Annales de la Chirurgie Française*, Jan. 1843.

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20. *Effects of Lead on the Human System.* By Dr. SEYMOUR.—There are many trades and callings in which the use of lead is very extensive. This mineral poison may get into the system by inhalation. Its first perceptible poisonous effect is upon the muscular structures, which lose their contractile power and become flabby and diminished in volume. The muscular coats of the intestinal canal are those which are generally first affected, some portions of them being dilated whilst others are contracted. Constipation arises from this, accompanied with great pain and spasmodic action of the recti muscles. In its early stage this colicky attack of the bowels is very easily relieved by the warm-bath and doses of castor oil. Some physicians have recommended opium and remedies of that class, but castor oil is, after all, the very best. By the judicious employment of these means the affection may be removed, but if the patient returns immediately to his work it recurs in an aggravated form; the muscles of the arm become paralyzed, and it “drops,” as it is termed. A similar effect may be produced by an over-exertion of these muscles, as occurs in some trades, such as those of shoemakers, cobblers, &c. The mode of curing such affections as these is to abstain from the occupations which cause them; using a generous diet; resting the hand upon a splint, as in this man’s case; and, best of all, by the employment of electricity. In addition to the use of these several means, this man was ordered to take half a drachm of the balsam of Peru three times daily, a remedy which has been supposed to be very useful, and I have certainly seen it of great service in cases in which over-exertion of the muscles has caused the paralysis. But this is not all. If the patient should be compelled by circumstances to return to his occupation and again inhale the poison, he will have accumulations of synovia in the joints, producing a species of synovial rheumatism, which will only yield to rest, local pressure, good food, and the occasional use of the warm-bath; though sometimes cases of this kind occur which require the same active treatment as severe idiopathic rheumatism. Should the same cause of disease be still in operation, a species of bronchitis, resembling bronchial phthisis, supervenes in which the patient spits up large quantities of fawn-coloured matter. On this state of things a more fearful disease than all, epilepsy, may supervene, and then death soon ensues.—*Lancet*, July 22, 1843.

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21. *Treatment of Hydrancephalus by Compression.*—Dr. ENGELMANN relates in *Puchelt, Chelius, and Nægele’s Medicinische Annalen*, vol. 8., four cases of Hydrancephalus successfully treated by compression with adhesive strips.—*Gaz. Med. de Paris*, Jan. 28, 1843.

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22. *Thickening and deep Fissures of the Skin, in an Infant at Birth.*—Dr. ALEX. KEILLER describes in the *London and Edin. Monthly Journ. Med. Sci.* for Aug. last, a very curious case of intra-uterine cutaneous disease. It occurred in a male child. Its whole dermoid covering was hard, preternaturally thickened, and deeply rent, so that the child seemed as if completely enveloped in an irregular coating of cartilaginous structure. So deep were the numerous fissures in the hard and much thickened scalp, that in appearance, as well as to the touch,

they very much resembled the sutures, or rather the serrated edges of the bones, of a disarticulated adult skull.

The skin of the face, in like manner, consisted of ossified-looking portions, also irregularly fissured; the nose and ears were represented by mere tubercular knobs without apertures; the eyelids were altogether undeveloped; red fleshy-like cushions occupied the *eyeless orbits*; the mouth seemed large and gaping; the tongue was voluminous and protruding, and their ill-starred owner, as if to render his hideousness still more complete, was yelling most vociferously.

The skin of the trunk and extremities was equally hard and cartilaginous, though not so thick as that of the head and face; the rents, or cracks, were so extensive on the abdomen, that it appeared, in several parts, altogether void of dermoid covering.

The carpus and tarsus of the right extremities were apparently somewhat diseased.

The genitals, like the nose and ears, seemed a mere tubercular knob.

The child was otherwise well formed, and, judging from its size and apparent strength, more especially of its vocal organs, appeared perfectly "*viable*."

It only, however, survived about twelve hours.

The placenta was small, soft, and easily torn.

The umbilical cord was unusually thin.

The mother made a perfect, though slow recovery, and the agitation, consequent on what she was pleased to consider as the melancholy fulfilment of her long-entertained surmises, having gradually subsided, she soon again became pregnant, an event which seemed greatly to aggravate her previous mental dependency, and to produce other nervous symptoms, for which I was frequently called upon to prescribe.

Despite, however, the continuance and fullest operation of that, by some, *fœtal-staining*, monster-making influence,—*a brooding, evil-anticipating, maternal imagination*,—she was in due time (on the 30th March, 1842,) safely delivered of a full grown healthy child, and has since enjoyed excellent health.

An analogous case was recently communicated to the French Academy of Medicine by M. SOUTY, (*Bull. de l'Acad. de Med.* Oct. 30, 1842,) and Prof. SIMPSON refers (*L. & E. Monthly Journ. Med. Sci.* Aug. 1843,) to four others of an analogous character, one in the Museum of Guy's Hospital, another imperfectly described by Richter in 1792, in an appendix to his *Infanticido in Artis Obs. &c.*; a third more fully detailed by HINZE in his *Kleinere Schriften*, and the fourth preserved in the Berlin Museum, and described in 1826 by STEINHAUSEN in his *Dissertatio De Singulari Epidermidis Deformitate*.

## SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

23. *Treatment of Varicose Veins*.—M. MOULINIE recommends the following method of operating for the cure of varicose veins, as not being attended with the bad results that not unfrequently succeed to other similar operations:—

"A fold of the skin is taken up in a direction parallel to that of the vein, and at some distance above the varicose part, an incision is then made across this fold down to the cellular tissue around the vein, disturbing the part by dissection as little as possible. An eye-probe, armed with a silk or fine thread, is then passed under the vein, and the latter is then tied. An incision is often made across the vein, a little above the ligature, for the purpose of preventing any inflammation of the vein spreading by continuity along it. The skin is then brought together by strapping, in order to protect the vein from the contact of air as completely as possible."—*Prov. Med. Journ.* July 22, 1843, from *Bouheur en Chirurgie*, &c.

24. *Process of Nature by which Hemorrhage is stayed or prevented, and by which the permanent closing of wounded Arteries is accomplished*. By Dr. WAT-



son.—The blood in the living body consists of certain chemical ingredients dissolved in water, which solution is called the *liquor sanguinis*; this fluid contains also certain red particles diffused through it, called the *red corpuscles*.

When removed from the body, and allowed to remain at rest for a time, (from three to seven minutes,) the blood becomes altered in its form,—its constitution and chemical composition is changed. The fibrin contained in the liquor sanguinis separates from it and coagulates, but in doing so, it entangles the red corpuscles so as to collect them in a soft mass along with it. This mass or coagulum is called the *crassamentum*; and the watery solution, in which the remaining ingredients are held dissolved, is called the *serum*. While the blood in the living body, therefore, consists of liquor sanguinis and red corpuscles, the blood, when removed from the body, consists of serum and crassamentum; the difference not consisting in simple congelation caused by change of temperature or rest, but in an alteration of its chemical constitution. Now, if the blood in the living body requires a certain vital influence to be imparted to it by the arteries, in order to maintain its chemical constitution, its fluidity and motion, without which it coagulates, it must follow that coagulated blood had been deprived of that influence, for a certain length of time, during which the blood must have been at rest. If, therefore, coagulated blood is found in the extremity of an injured artery, the vital influence of the artery upon it must have been withheld, and the blood must have also been at rest for a certain length of time before coagulation could have taken place. We must, therefore, infer, that the injury had deprived the artery of the power it possessed in moving the blood and maintaining a proper constitution. Hence, the hemorrhage must have stopped before coagulation took place, and, therefore, the formation of a coagulum could not be the cause of the hemorrhage having ceased; for it must have stopped before the coagulum could form.—*Lond. and Edin. Month. Journ. Med. Sci.*, July, 1843.

25. *Rupture of the Bladder, with Dislocation of the Thigh-bone into the Ischiatic Notch.* By JAMES SYME.—John Aitken, aged 32, while working in a quarry, on the 10th of April, was crushed down, in a crouching posture, by a stone of nearly two tons weight. He was brought to the Hospital about six hours after the accident, which happened nine miles from town. The left hip-joint was dislocated, and there were several superficial wounds on the head. But the principal injury was rupture of the bladder, which presented the usual signs of agonizing pain in the belly, with constant desire to make water, while nothing could be extracted by the catheter, except a little bloody fluid. The scrotum was greatly distended by extravasated blood, and there was no pulse at the wrist. In these circumstances I considered it improper to reduce the dislocation, and in a few hours afterwards the patient died.

On dissection, a rent was found in the fundus of the bladder. There was also a fracture through the pubis into the foramen ovale of the right side, and separation at the symphysis pubis, as well as at the sacro-iliac junction.

When the integuments of the left hip were divided, the subjacent cellular texture displayed extensive ecchymosis. The *gluteus maximus* was nearly torn through, and the head of the thigh-bone lay imbedded in its substance, with merely a thin covering of the muscle. The pyriformis was ruptured, and the superior of the gemelli slightly lacerated. The *gluteus minimus* was so completely destroyed that its remains could with difficulty be recognised. The *ligamentum teres* was torn away close to the head of the bone, which lay upon the gemelli and sacro-sciatic nerve. The capsular ligament was extensively ruptured close to the acetabulum.

The extreme rarity of opportunities for examining the state of parts in recent dislocations of the hip-joint, renders this case worthy of notice, especially as the best authority upon the subject, Sir A. Cooper, does not appear to have had any such opportunity, in regard to displacement into the ischiatic notch. My principal reason for mentioning the case, however, is to draw attention particu-

larly to a symptom of the injury, which will be found very important for its diagnosis.

Sir A. Cooper says, "this dislocation is the most difficult both to detect and to reduce;" there being less deformity and fixture of the limb than in any of the other displacements of the thigh-bone. This obscurity is much increased by attempts to effect reduction, since a moderate degree of extension almost entirely removes the shortening and inversion, which are usually considered the most characteristic symptoms. I think it, therefore, of consequence to state, that there is another feature of the injury which, according to my experience, is never absent—always well marked—and not met with in any other injury of the hip-joint, whether dislocation, fracture, or bruise. This is an arched form of the lumbar part of the spine, which cannot be straightened so long as the thigh is straight, or on a line with the patient's trunk. When the limb is raised or bent upwards upon the pelvis, the back rests flat upon the bed; but so soon as the limb is allowed to descend, the back becomes arched as before. By attention to this symptom, I have been able to recognize the existence of dislocation into the ischiatic notch, when it had been unnoticed by others; and on one occasion, when it was supposed that the replacement had been effected through powerful extension by the pulleys. The same guide led me at once to a correct diagnosis as to the situation of the bone in the case above related, without any disturbance of the poor dying man.—*Ibid.* June, 1843.

26. *An Inquiry into certain of the causes of Death after Injuries, and Surgical Operations in the London Hospitals, with a view to their prevention.*—Dr. NORMAN CHEVERS, in an interesting article in the April No. of *Guy's Hospital Reports*, adverts to the fact, that while the attention of surgeons has been assiduously directed to the best modes of performing operations, and treating wounds, very little notice has been taken of those serious, and frequently rapidly fatal casualties, which so often follow the most skilfully performed operations, and occur during the treatment of comparatively slight injuries. A considerable amount of knowledge of their mode of attack and their effects has been obtained; but little is known regarding their causes, and the preventive means by which they may be warded off. Although, by the many improvements in surgery, made during late years, the number of operations has been much curtailed, it is evident, that their consequences are very generally more serious than could be anticipated from the apparent degree of their severity. Statistical inquiries have done much to ascertain the ratio of fatality, the ages at which a fatal termination is most liable, and the classes of operations after which death generally takes place; and they have also shown that more is dependent on treatment previous and subsequent to the operation, than on the tact shown during its performance; but unfortunately, they do not admit of general application, owing to the effects of locality of hospitals, &c., and idiosyncrasy, on the results of operations.

Dr. Chevers inquires into the results of experience, with regard to the most frequent immediate causes of death in this description of cases. The causes appear to resolve themselves naturally into three distinct classes, viz. the *primary*, *secondary*, and *remote*.

1. The *primary* include all fatal accidents during, or very shortly after operations or injuries; such as, death from

Collapse,

Hæmorrhage,

The admission of air into the veins, or

The sudden occurrence of any internal lesion.

2. The *secondary* include fatal causes, liable to come into action within a few hours or days. They may be subdivided into two sets:

a. Those which appear to depend upon some obscure lesion of the nervous system; as, for example,

Tetanus,

Delirium Tremens,

Irritative Fever. [This sometimes depends on *Arachnitis*.]

- b. Those which are attended with some manifest local change; such as,
- |                     |                                                       |
|---------------------|-------------------------------------------------------|
| Arachnitis,         | Suppuration in the Liver, or other abdominal viscera, |
| Pleurisy,           | Phlebitis and Arteritis,                              |
| Pneumonia,          | Laryngitis and Diphtheritis,                          |
| Pericarditis,       | Enteritis,                                            |
| Endocarditis,       | Secondary Hæmorrhage,                                 |
| Aortitis,           | Sloughing,                                            |
| Peritonitis,        | Erysipelas.                                           |
| Purulent Arthritis, |                                                       |

3. The *remote* causes comprise those which produce death after an interval of some weeks or months. The principal of these are,

- Profuse Suppuration,  
 Secondary Fever,  
 Caries of injured bone, with suppuration,  
 Phthisis.

There are also several fatal causes, which may come into action at almost any period, between the time of the injury and the complete healing of the wound; such as, hospital gangrene, and various forms of endemic and epidemic fever.

The following remarks are chiefly directed to certain of those causes of death which are included under the *secondary* class; namely, marked diseases of various organs and surfaces (for the most part remote from the spot primarily injured) which are liable to prove fatal, within a certain number of hours or days, after operations and accidental wounds.

Morgagni observed a fact which is well known, but not sufficiently attended to, that individuals admitted into hospitals with some slight disease, who had remained a considerable time under treatment, were very frequently attacked with more serious disease than that under which they first laboured; and, in illustration of this fact, he cites the case of a man who entered a public hospital at Bologna for the cure of a slight wound in the leg; but lying next to a patient suffering from an abscess of the thigh, which afterwards proved fatal, he became the subject of pneumonia, which had supervened apparently upon malignant disease of the right lung, as appeared on dissection. Fontanus, Dupuytren, Sir C. Bell, Mr. Erichsen in the *Medical Gazette*, and others, have also observed the great tendency to thoracic disease, following accidents and operations. Cline and Abernethy published cases of death following amputation, caused by inflammation of the arteries, spreading to the aorta and heart, which had been tied. Travers, Arnott, and Carmichael, have drawn attention to inflammation of the veins. It has been found by these, and other surgeons, that the phlebitis has been in many cases accompanied by inflammation elsewhere and at a distance, as in the heart, liver, lungs, &c.; and, on the other hand, distinct evidence of similar disease has been observed in these parts, without any deviation from a healthy condition having been found in the veins. Dr. Addison has also observed the fact, that rapidly fatal peritonitis and pleurisy not unfrequently follow injuries and operations, especially when occurring about the pelvic organs.

The occurrence of pneumonia, subsequent to operations and injuries, has been generally considered to depend on confinement of the individual in a vitiated atmosphere, while, at the same time, the nervous system was in a depressed and irritable condition, and to the engorgement of the back parts of the lungs with blood induced by the recumbent posture. These causes must, no doubt, tend to excite pulmonary disease in those predisposed; but in a very slight degree, in the majority of instances, can they influence the termination. Numerous cases have occurred, in which the patients, who had been in active exercise previous to the performance of operations, and who were treated in wards in which ventilation was strictly attended to, have died speedily from most aggravated thoracic disease. Besides, we would expect to find disease in both lungs, were recumbency a cause, as each organ must be alike liable to vascular engorgement from the same cause. But this is by no means invariably the case; sometimes, portions of one lung will be affected, while the other is tolerably healthy; or one pleura will be more or less filled with effusion, while the other exhibits no



indication of recent disease. On the other hand, there are numerous instances of patients, of bad constitution, and who were treated in the worst ventilated wards of the London hospitals, and lay in the recumbent posture during their recovery from bad compound fractures, lacerated wounds, and other severe injuries, which left the patient in a state of great nervous depression, and were the sources of profuse discharge, who ultimately recovered without having exhibited any symptoms of thoracic disease. Mr. Guthrie has observed, that chest symptoms are most apt to appear in individuals whose lungs were previously diseased, and thus predisposed to fresh disorder.

Some have attributed the occurrence of phlebitis and arteritis, following amputation, to the irritation of ligatures, or some other mechanical cause; but it is well known, that the general effect of a ligature on an artery is merely to cause the effusion of lymph, at the point of deligation only; and that in healthy persons, veins are not very liable to inflammation, even although tied, incised, lacerated, or cauterized. Phlebitis and arteritis do not frequently attack patients in English hospitals; and when they do occur, they are usually seen in persons of depraved constitution, and seem to originate in some constitutional cause, which the injury has called into activity.

The circumscribed purulent depôts which have been found in the liver and lungs, in such cases, have been attributed to venous absorption, and subsequent deposition of the pus; but, while this undoubtedly takes place in some cases, there are no evidences of its occurrence in others; and besides, these collections of purulent matter are not deposits infiltrated through the texture of the organs, but distinct abscesses in which part of the original texture is broken down.

Dr. Chevers cannot, therefore, admit, that the usually received opinions with regard to the causes of these forms of disease, (as occurring after wounds and injuries,) are by any means satisfactory. It has always appeared to him that there is probably one set of definite constitutional causes, which is ever ready to call these local mischiefs into fatal action, immediately upon the individual being subjected to any kind of unusual vicissitude or injury.

In London, and all densely peopled towns, there is a large class of individuals in the lower ranks, who are continually exposed to cold and wet, while following their laborious occupations, among whom intemperance is a prevailing vice, and in whose constitutions the ravages of syphilis—in many cases neglected, in others ill treated—tell with marked effect. Although these persons may be able to pursue their ordinary avocations with tolerable ease, yet, when an accident happens to them, or they were subjected to any depressing or exciting influence which aggravates the disorder of their organs of circulation and elimination, they almost invariably are attacked with most acute and fatal inflammation of one or more of the internal organs. The state of the system, which is described above, is in general vaguely termed “cachexia;” and usually it is easy to trace its cause to some functional or structural disease of the chief eliminating organs, the kidneys, liver, and spleen.

It is almost impossible to have been long in the habit of paying close attention to the pathological examinations in large metropolitan hospitals, without observing, that a very great proportion of those who die from the secondary effects of mechanical injuries, have been the subject of some marked, and often very acute, form of renal, hepatic, or splenic disease, or frequently of the whole of these combined. For the purpose of confirming the observations, which Dr. Chevers made at Guy's Hospital for several years past, he carefully examined the account of all the cases where death occurred from the *secondary* effects of operations and mechanical injuries of every description, which have been entered in the *post-mortem* registers of the Museum during the last fifteen years, comprising the whole of the cases in which examination of the bodies of patients so dying could be procured during that period.

One hundred and fifty-three cases of the kind were obtained from that source. Many of the subjects of these reports had undergone severe operations, or suffered from extensive accidental injuries; others had been the subjects of wounds or contusions of an apparently very trivial kind; still, the internal inflammations

which destroyed life in most of the latter cases, were generally as severe as those which proved fatal in the former instances, and frequently more so. In these 153 cases, death took place from inflammation of secreting surfaces, or internal organs, (including the kidneys, liver, and spleen,) in - 134

In the remaining 19, the patients died from other causes; such as, tetanus, sloughing, hæmorrhage, suppuration, gangrene, erysipelas, diarrhœa, and the total deficiency of reparative action in the wound; and in one of these cases, the precise cause of death could not be discovered, - 19

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In but a small proportion of the 134 cases (in which the injuries or operations were followed by the occurrence of fatal internal lesions,) the inflammatory affections generally involved several important parts, and these often at a considerable distance from each other, and from the seat of the primary injury.

In some of these cases, the accession of the inflammation may have been the necessary consequence of the injuries received. In about thirteen cases, from the nature of the injury, no hope of recovery could be entertained; but in all the others, there seemed every chance of a successful issue.

*List of the Various Recent Inflammatory Lesions found in the above 134 Cases:—*

|                                                                                                                                                          |   |   |   |   |   |   |   |           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|-----------|
| Acute disease of the substance of the lungs, appearing in the form of inflammatory œdema, red or gray hepatization, abscess, or gangrene, was noticed in | - | - | - | - | - | - | - | 47 cases. |
| Bronchitis alone,                                                                                                                                        | - | - | - | - | - | - | - | 2 "       |
| Pleuritis,                                                                                                                                               | - | - | - | - | - | - | - | 35 "      |
| Laryngitis and diphtheritis,                                                                                                                             | - | - | - | - | - | - | - | 2 "       |
| Meningitis,                                                                                                                                              | - | - | - | - | - | - | - | 27 "      |
| Inflammation, softening, or abscess of the brain,                                                                                                        | - | - | - | - | - | - | - | 9 "       |
| Pericarditis,                                                                                                                                            | - | - | - | - | - | - | - | 14 "      |
| Peritonitis,                                                                                                                                             | - | - | - | - | - | - | - | 52 "      |
| Arteritis and aortitis,                                                                                                                                  | - | - | - | - | - | - | - | 4 "       |
| Phlebitis,                                                                                                                                               | - | - | - | - | - | - | - | 3 "       |
| Suppuration in the substance of the psoas muscles,                                                                                                       | - | - | - | - | - | - | - | 2 "       |
| Acute purulent synovitis,                                                                                                                                | - | - | - | - | - | - | - | 1 "       |
| Inflammation of various portions of the intestinal canal, (including cases of hernia,)                                                                   | - | - | - | - | - | - | - | 9 "       |
| Inflammation of the tunica vaginalis,                                                                                                                    | - | - | - | - | - | - | - | 1 "       |
| Cystitis,                                                                                                                                                | - | - | - | - | - | - | - | 8 "       |

In this table, the numbers refer only to the frequency of the appearance of the particular disease, and not to the total number of cases. Thus, phlebitis is stated to have appeared in three cases, and arteritis in four; but there were altogether only six cases of vascular disease:—in three of which there was arteritis, in two, phlebitis, and in one, arteritis and phlebitis combined.

*State of the Kidneys, Liver, and Spleen, in the 134 Cases.*

|                                                                                                                                                                         |   |   |   |   |   |   |   |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|-----------|
| The kidneys were observed to be in a state of marked disease, either presenting remarkable congestion, softening, mottling, or the granular or cystiform alterations in | - | - | - | - | - | - | - | 72 cases. |
| The appearances of the kidneys were not mentioned (usually from the autopsy having been only partial) in                                                                | - | - | - | - | - | - | - | 44 "      |
| These organs were stated to be without any apparent disease in                                                                                                          | - | - | - | - | - | - | - | 26 "      |
| The condition of the kidneys was doubtful in                                                                                                                            | - | - | - | - | - | - | - | 11 "      |

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Of the above cases, in which the kidneys were either not examined, found healthy, or considered in a doubtful state, there was marked disease of the liver or spleen, or of both these organs, in 21 cases—giving a total of 93 cases, in which one or more of these important organs was found in a state of lesion.

From the character of the symptoms, and the nature of the inflammatory lesions, of which many of the patients died, Dr. Chevers is convinced, that renal disease would, if looked for, have been discovered in a considerable number of those cases in which the state of the kidneys was not examined after death. It was observed, that of the 134 cases in which the patients died of internal inflammation, there was also superadded marked disease of the kidneys, liver, or spleen, or of all these organs combined, in 90. In a rather large proportion of these cases, the disease of the liver, spleen, and kidneys had evidently existed for a very considerable time previous to the patients receiving the wounds or injuries, which became the apparent primary cause of death; but in very many, (and this was especially observable in the renal cases,) the changes were evidently of so recent a nature, as to render it probable that almost immediately after the operations or accidents, either visceral disease had been excited from a latent to an active condition, or that a state of acute congestion had suddenly been established in organs, which had hitherto been suffering merely from chronic degeneration.

One of the chief objects of Dr. Chevers' paper, is to draw the attention of the profession to the very frequent occurrence of disease of the liver, spleen, and particularly of the kidneys, in those who die from the secondary effects of operations and injuries. The author is satisfied that the majority of deaths after operations, &c., depends upon diseases set up in these organs, and roused into activity by these accidents; and he believes that acute congestion of the kidneys, or any state approaching to that, and acute splenic or hepatic disease, especially predispose to a fatal termination even of the most trifling operation or injury. Dr. Chevers was led to this belief, by observing the great similarity of the morbid appearances, found after death from such circumstances, to those which are known to be the effect of Bright's disease of the kidneys. The kidneys are very liable to be congested during the state of vascular excitement which follows most operations and injuries; and as they are, previous to the injury, in a disordered condition, this congestion is sufficient to arrest their powers of secretion, and so gives rise to the accumulation of urea in the blood, owing to the unrelieved suppression of urine, which is followed by œdema of the lungs and cerebral effusion, if the secretion is suddenly and completely arrested; or by serous inflammations and effusions, and other serious organic lesions, if more slowly and partially suppressed.

It seems also pretty certain, that the same vascular excitement farther deranges structural disease of the liver and spleen, and so gives rise to the occurrence of morbid effusions in different parts of the body. Serious inflammations, it is well known, are especially apt to follow structural hepatic disease, and the same condition also leads to various morbid effects in other parts.

It often, but by no means invariably, appears that fatal results are promoted, by the patient's catching cold during the period of restless excitement which follows severe injuries; this, doubtless, also assists in calling renal disease into activity, where the kidneys have been previously liable to disorder, and may then, in some measure, aid in determining the occurrence of pulmonary or other inflammations. But still it is certain, that many fatal cases of thoracic inflammations, consequent upon injuries, occur, in which there is no satisfactory evidence of the patient having suffered from cold.

The foregoing remarks help us to an explanation of the fatal termination, in those individuals who were previously able to go about their ordinary occupation without inconvenience. In all of these, the abdominal organs have been the seat of some of the derangements mentioned above, and these have been aggravated by the operation or injury, although slight. The mode of attack, the symptoms, and the morbid appearances after death, of these secondary inflammatory affections, bear the closest resemblance to those fatal inflammations which occur in persons labouring under albuminous nephritis; and the chief difference in these cases seems to be, the immediately exciting cause which induces them. It is probably neither to the severity of the operation or injury, nor to the irritation which it creates in the nervous system; neither to the effects



of bad ventilation, nor of long confinement; nor, in fact, to the action of any other general cause, that we are principally to ascribe the predisposition of this class of patients to the fatal lesions under consideration; but rather to the influence of a diseased state of the abdominal organs, to which their previous habits of life have long been subjecting them. It is highly probable, that in most of the individuals who thus perish, even if they had never become the subjects of any wound or injury, some other vicissitude would, by bringing the renal or hepatic mischief into active operation, have equally determined the occurrence of fatal cerebral, thoracic, or abdominal inflammations.

The causes of arteritis and phlebitis following amputation, are considered yet uncertain by surgeons. The idiopathic forms of these diseases very generally occur along with Bright's disease of the kidneys, and may be ascribed to the tendency to inflammation in the serous tissues, which exists during the progress of renal disease. Of the six cases mentioned in the table, in five, marked structural lesion of the kidneys was found.

Although it is not generally known, it appears true, that secondary hæmorrhage is very apt to follow operations, in those persons in whom renal disease exists. The occurrence of this hæmorrhage seems to depend upon the morbid state of the blood, its highly azotized condition, and the non-formation of a plug, by the coagulation of the blood, and the effusion of lymph.

Besides producing the tendency to hæmorrhage, the existence of renal disease is apt to cause a fatal termination in other ways. Thus, persons having old strictures of the urethra, are liable to be seized with shivering, vomiting, quick pulse, without much local pain, and die from peritonitis, cystitis, or other inflammation, &c. In such individuals, inflammatory œdema of the lungs, and cerebral effusion, not unfrequently are the causes of death. An acute form of Bright's disease sometimes attacks persons suffering from stone in the bladder; and if lithotomy is performed, the patients are very liable to be seized with fatal inflammation of the serous and other structures, and are subject to secondary hæmorrhage. It is not uncommon for persons labouring under syphilis, to be suddenly attacked with acute œdema of the glottis, purulent laryngitis and diphtheritis, or most severe inflammation of the thoracic and abdominal viscera, and be cut off by these accidental diseases; and it will generally be found, that the persons so destroyed have been of intemperate habits, have been ill treated with mercury, and have become the subjects of Bright's disease.

Dr. Chevers requests that it must be observed, that his observations chiefly apply to the causes which, during a long series of years, have led to fatal results in Londoners of the poorer classes, in tolerably ventilated hospitals, where the chances of death after operations appear to depend almost entirely upon the previous state of each patient's constitution.—*Lond. and Ed. Monthly Journ.* Aug. 1843.

27. *Anatomico-Chirurgical Observations on Dislocations of the Astragalus.*—Mr. TURNER in an interesting paper in the eleventh vol. of the *Trans. of the Prov. Med. and Surg. Association*, discusses this subject under the following heads:—

1. What are the anatomical relations of the astragalus, and in what manner do they influence the accidents to which this bone is liable?
2. By what powers, or kind of forces, are dislocations of the astragalus produced?
3. In what direction can the astragalus be luxated?
4. What forms of luxation are, and what are not reducible?
5. What are the obstacles to reduction in most cases?—and lastly,
6. Since reduction is impracticable, in almost all cases of dislocation of the astragalus, by what principles are we to be governed in the treatment of this accident?

Under the first of these heads Mr. T. considers very fully the anatomy of the astragalus and its connections. His observations under this head are valuable, and well worthy of perusal.

Under the second head, he considers the motions of the astragalus, and the operation of forces, in the production of its dislocations.

Under the third head, he enumerates the directions in which the astragalus has been dislocated. These, according to recorded and communicated cases he enumerates as follows:—

- Forwards.
- Forwards and inwards.
- Forwards and outwards.
- Upwards and outwards.
- Outwards.
- Inwards.
- Backwards.
- Outwards, downwards, and backwards.

Mr. T. next treats at some length the “Relative Anatomy of the different dislocations, as producing the signs, and influencing the results of these accidents.”

This he very properly considers a subject of much importance, inasmuch as it not only teaches us the signs of the different forms, directions, and kinds of luxation, but enables us to understand the mechanical difficulties which the contact of irregular processes and concavities opposes to its reduction. Our intention at present is to call attention to, rather than give an abstract of, Mr. T.’s memoir; we shall not, therefore, attempt to follow him in his description in this part of it.

Mr. T. illustrates the subject by a detail of the most interesting and instructive points connected with published and unpublished cases of these accidents—of which, after much labour, he has collected forty-five cases. He has arranged them in tabular forms. The first is framed with the view of comparing the relative frequency of the various forms, courses, and kinds of dislocation, in the different regions of the foot.

From this table it appears, that in this number there are of

| Simple Cases.     |    |                                                                                                  |    |
|-------------------|----|--------------------------------------------------------------------------------------------------|----|
| Partial. . . . .  | 3  | { Without. . . . . 2 }<br>{ With fracture . . . 1 }                                              | 3  |
| Complete. . . . . | 21 | { Without. . . . . 13 }<br>{ With fracture . . . 8 }                                             | 21 |
| Compound Cases.   |    |                                                                                                  |    |
| Partial. . . . .  | 2  | { Without. . . . . 2 }<br>{ With fracture . . . 0 }                                              | 2  |
| Complete. . . . . | 19 | { Without. . . . . 13 }<br>{ Without fracture . . . 5 }<br>{ With dislocation of ankle . . . 1 } | 19 |

thus proving, that there is no great disparity in numbers, between the simple and compound cases. From the same table it is seen, that dislocations on the anterior aspect of the foot are more numerous than all the rest put together; there being 25 on the anterior, 6 on the inner, 7 on the outer, and 7 on the posterior region of the foot. Some of the examples recorded were accompanied with fracture of one or both bones of the leg, and in one instance, with fracture of the os calcis. These complications do not appear to render the accident more formidable in its character; on the contrary, it would appear, according to Mr. T., from the cases given, that the fracture rather offers facilities to the reduction of the dislocation. In the cases complicated with fracture, the dislocation is more frequently simple than compound, in the proportion of 9 to 5, a circumstance explicable on the division of force between the two effects.

In the second table, Mr. T. gives a classification of the treatment and results of dislocations of the astragalus; we would refer the reader for more particular information, to the original tables, the following is the summary of results:—

| NO. OF CASES.                     |                                                         | RESULTS.                                                                                                                                              |    |
|-----------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 2                                 | Partial reduction . . . . .                             | { Permanent inflexibility . . . . . 1 }<br>{ Tolerable motion . . . . . 1 }                                                                           | 2  |
| 6                                 | Complete reduction . . . . .                            | { All did well, with tolerable,<br>and in some with perfect<br>motion . . . . . 1 }                                                                   | 6  |
| 10                                | Bone allowed to remain in its new<br>locality . . . . . | { Ankylosis . . . . . 1 }<br>{ Deformity and impaired mo-<br>tion . . . . . 2 }                                                                       | 10 |
|                                   |                                                         | { Imperfect motion . . . . . 1 }                                                                                                                      |    |
|                                   |                                                         | { Result not published . . . . . 1 }                                                                                                                  |    |
| 6                                 | Partial excision . . . . .                              | { Useful foot . . (all backwards) 5 }<br>{ Deformity and permanent<br>lameness . . . . . 1 }                                                          | 6  |
|                                   |                                                         | { Deformity, with a tolerable<br>foot . . . . . 1 }                                                                                                   |    |
|                                   |                                                         | { Ankylosis . . . . . 1 }                                                                                                                             |    |
| 18                                | Complete excision . . . . .                             | { Useful foot . . . . . 3 }                                                                                                                           | 18 |
|                                   |                                                         | { Ankylosis . . . . . 1 }                                                                                                                             |    |
|                                   |                                                         | { Useful foot . . . . . 13 }                                                                                                                          |    |
|                                   |                                                         | { Death . . . . . 4 }                                                                                                                                 |    |
| In 10 the operation was immediate |                                                         |                                                                                                                                                       |    |
| —                                 | 1 on the 2d day . . . . .                               | { Simple cases . . . . . 3 }<br>{ Simple and complicated . . . . . 3 }<br>{ Compound cases . . . . . 10 }<br>{ Compound and complicated . . . . . 2 } | 18 |
| —                                 | 1 on the 11th day . . . . .                             |                                                                                                                                                       |    |
| —                                 | 1 after 4 weeks . . . . .                               |                                                                                                                                                       |    |
| —                                 | 1 after 33 days . . . . .                               |                                                                                                                                                       |    |
| —                                 | 1 after 10 weeks . . . . .                              |                                                                                                                                                       |    |
| —                                 | 2 after 14 weeks . . . . .                              |                                                                                                                                                       |    |
| —                                 | 1 after 7 months . . . . .                              |                                                                                                                                                       |    |
| 4                                 | Amputation . . . . .                                    | { Recovered . . . . . 3 }<br>{ Not recorded . . . . . 1 }                                                                                             | 4  |
| 46 Total.                         |                                                         |                                                                                                                                                       |    |

By this table, it is shown, that the success of the partial reduction is, as might have been expected, less favourable than complete reduction. That in dislocation backwards, the sequel of allowing the bone to remain in its new situation, has been most satisfactory; but not so in dislocations in other directions. Partial excision left a useful foot, in three out of six cases; in the remaining three, there were deformity, lameness, and ankylosis.

The results of complete extirpation of the bone have been very encouraging, when we consider the desperate character of the accident which demands this formidable mode of procedure. In thirteen out of eighteen, a very useful limb remained; in one only was there true ankylosis; and death occurred in four cases. In no simple case was there a fatal result.

Mr. Turner next considers the principles of treatment in dislocations of the astragalus, and first as to reduction, he concludes, that, "if the astragalus be partially dislocated, and not twisted round, as it often is when dislocation is complete, there is reason to hope that reduction may be accomplished." That in complete compound dislocations of the astragalus alone, without fracture or solution of continuity and connection in the bones and joints of the tarsus, all attempts at reduction are not only hopeless, but prejudicial, and although we may be justified in hazarding the chance of allowing the bone to continue in its new situation when the luxation is simple, extirpation ought always to be performed when the accident is of a compound kind. The author's conviction is, that the astragalus, when completely dislocated, without fracture, disjoined tarsal bones, or dislocation of the ankle, is an irreducible dislocation, and that all attempts at accomplishing reduction are worse than useless.

The author next considers the practice of allowing the astragalus to remain in its new situation. He comes to the conclusion that, in luxation backwards,



we are not to interfere, except by making reasonable efforts at reduction, inasmuch as in all cases detailed, except one, the cases were left to nature, and did well.

In partial cases, whether simple, or simple and complicated, should attempts at reduction fail, there must be no operative interference. In partial and compound, or compound and complicated cases, reduction failing, excision of the protruded portion of bone should be performed.

*Complete excision* of the bone is recommended by the author in complete compound luxation. In simple, direct, and complete luxation, he advocates the practice of allowing the bone to remain in its new situation, until it manifests a tendency to ulcerate the skin, in which case he would make an incision over the bone to relieve tension and pressure, and when the bone is so far detached from the circumjacent textures, by the natural process of separation, he would remove it.

The question of amputation, he says, is one which *a priori* we should consider as often called for; but miraculous as it appears to be, it is nevertheless true, that it need seldom be seriously entertained. For further information as to the author's opinions on this head, as well as to all the others, we would refer the reader to the original memoir, which is well worthy of the attentive perusal of every practical surgeon.—*L. and E. Month. J. Med. Sci.* Aug. 1843.

28. *Wound of the Left Ventricle of the Heart.*—WM. BAIRD, Esq., relates a very interesting case of wound of the left ventricle of the heart, in which the subject of it, a man, after receiving the mortal wound, which was followed by copious effusion of blood internally, continued to make great exertions, both in running and fighting—appeared to suffer little pain from so severe an injury, and lived half an hour after the receipt of the wound, dropping down dead at last from exhaustion after running or walking 150 yards.

On examining the body the next day, “two penetrating wounds were discovered on the left side of the chest, with sharp and well-defined edges. The upper wound was one inch in extent, running obliquely between the third and fourth ribs, at a distance of  $4\frac{3}{4}$  inches from the centre of the sternum, and of  $4\frac{1}{2}$  inches from the clavicle. The lower wound was half an inch in extent, being situated obliquely between the fifth and sixth ribs, at a distance of  $5\frac{3}{4}$  inches from the centre of the sternum, and of  $8\frac{1}{2}$  inches from the clavicle. On dissecting back the common integuments and the muscles, the lower margins of the third and the fifth ribs were seen slightly marked by the cutting instrument. When the chest was laid open, three pints of blood, partly fluid and partly coagulated, were found in the cavity of the left pleura, and the lung on this side of the chest was compressed to less than half its usual size. The lower wound had penetrated the pericardium, and passed through the entire thickness of the wall of the left ventricle of the heart, at the lower part of its middle third. It was still half an inch in extent, and transverse in its direction. The pericardium contained only a small clot or two of blood.

“The upper wound had grazed the outer coat of the aorta,  $2\frac{1}{2}$  inches from its origin—producing slight ecchymosis around.

“The lungs were healthy—their depending portions being slightly gorged with blood. The stomach was distended with fluid, giving out a strong spirituous odour, and with the remains of half-digested food; but it was quite free from disease. The liver and other abdominal viscera were healthy. On opening the head, there was discovered some engorgement of the veins of the pia mater, but only in the depending parts. The brain was healthy. The ventricles contained no fluid.

“No other wounds or contusions were observed on the body, except the two described above.”

The blade of the knife with which the wounds were inflicted, was three inches long, and half an inch at its broadest point, gradually tapering to the point. It fitted exactly the lower wound. The upper wound was probably dilated in withdrawing the instrument.—*Lond. and Edin. Month. Journ. Med. Sci.*, April, 1843.

29. *Anatomical Lesions of the Nervous System in Tetanus.* By M. IMBERT GOURBEYRE.—A person who died of tetanus at the Hotel Dieu presented the following morbid lesions of the nervous system. Numerous ecchymoid spots were noticed on the external surface of the dura mater covering of the spinal marrow, and a collection of liquid blood occupied about five inches of the lower extremity of the spinal sheath. The spinal marrow was shrunk and softened in its two upper thirds, and the pia mater could not be dissected from it at this part, it adhered so closely to the softened spinal cord. This softening continued to the level of the occipital hole, and ended at the anterior pyramids. The anterior and middle lobes of the left side of the brain were found also softened, and the vessels of the pia mater were injected over the same part. The tetanic affection had come on after a fracture of the limb. The corresponding sciatic nerve was found to be finely injected, and faintish ecchymosed spots were here and there remarked.

M. Gourbeyre has collected a few facts on the same subject from the observations of others, both physicians and veterinary surgeons, from which it appears that softening of the cerebro-spinal axis, and especially of the anterior columns, with effusion of blood into the spinal canal, are of pretty general occurrence in tetanic affections. Inflammation of the nerve, leading from the injured part, which was the cause of the tetanic affection, as characterized by injection of its blood-vessels, occasional scattered ecchymose spots, a dead lustre, and occasional softening, were also frequently observed.—*Ed. Med. and Surg. Journ.*, July, 1843, from *Archives G n rales*, April, 1843.

30. *On Lateral Curvature of the Spine, and the case in which it may be remedied by Operation.* By JAMES SYME, Esq.—When some time ago it was proposed to cure lateral curvature of the spine by dividing the muscles of the back, and when cases in which this preposterous practice had been adopted were published, every honest and well-informed member of the surgical profession must have experienced the strongest feelings of disgust and indignation. The only consolation was, that the absurdity of the proposal could not be long overlooked, even by the public, and would prevent much mischief from being sustained, until the salutary influence of time over such follies should interpose its usual protection of forgetfulness. But though years have passed, I still find that the hopes so improperly excited have not yet been abandoned, and am frequently placed in the painful situation of declining to perform operations for curvature of the spine on patients who had been led to expect complete and immediate relief from this source. The object of the following remarks is to discourage all thoughts of an operation in the ordinary form of the disease, and to point out one particular case in which the only remedy is afforded by the knife.

In tracing the origin of lateral curvature, it is not easy to determine whether the muscles or the bones should be considered chiefly in fault. The former, through weakness or bad habits, allow the spine to assume a bent shape; and the latter, from deficiency of their ordinary rigidity, yielding to the unequal pressure thus occasioned, suffer a corresponding distortion. Sex, age, and tight lacing, may conduce to these effects; but they are doubtless promoted in no small degree by the enervating influence of modern education, which strains and over-fatigues the mental faculties, at a period of life when energy of body, moral sentiments, and powers of observation should rather be cultivated. This pernicious system not only destroys the appetite for wholesome duty at its proper season, but seriously endangers health, and in all probability contributes to the present frequency of spinal complaints.

So long as the bones preserve their natural forms, the patient, by a voluntary effort, or by assuming the horizontal position, can at once make the curvature disappear; and if care be at this time taken, by attention to the general health, the disuse of stays, avoiding sitting or standing still, and frequently reclining on a flat surface, the distorting process may be easily and certainly arrested. It too frequently happens, however, that when a medical man is consulted at this stage of the complaint, finding the bones unaltered in shape, and the spine

readily straightened, he is misled to form and express the opinion, that there is nothing really wrong. He attributes the apprehension to over-anxiety, and dismisses the case with the comforting assurance, that it will soon be all right. At length the bones do give way—the curvature can no longer be redressed, the ribs become flattened, the sternum projects, and the sad truth being then too apparent, means of remedy are sought for on all sides. But the time for beneficial interference has unhappily gone by. The exercises which formerly might have *prevented* the curvature, must now tend to increase it, by the superincumbent pressure of the head and shoulders, while the invigorating measures which might have fortified the bones against the distorting influence, must confirm them in the faulty forms they have assumed. Mechanical support in the erect posture is worse than useless, since it impairs the muscular power that remains, without effectually relieving the trunk from pressure; and the complicated apparatus for effacing the deformity, by pulling, squeezing, and exercising in the horizontal posture, though certainly more plausible in theory, if I may judge from the results of their trial in practice that I have happened to witness, owe more of the credit placed in them to the confident statements of their respective projectors, than to the improvement they have actually accomplished.

It is no wonder, then, that when an operation for the cure of confirmed lateral curvature was proclaimed as safe, speedy and effectual, the hopes of all interested in the complaint were powerfully excited. This operation consisted in dividing certain muscles of the back, on the contracted state of which it was alleged the distortion depended. But nothing could be more erroneous than this view of the case, since the muscles throughout its production and existence are entirely passive. They from the first do not draw the spine awry, but allow it to bend, their fault being weakness, and not undue contraction, so that those requiring to be corrected are seated on the convexity of the curve, instead of its concavity, and it is needless to add, could not be strengthened by division of their substance. The operation, therefore, should be banished from respectable practice, and if it survives this merited disgrace, be committed to those members of the profession who are base enough to take advantage of their patients' credulity for the sake of gain or unworthy notoriety.

But there is one particular condition of the complaint certainly not common; yet judging from the number of cases that have fallen within my own observation, I should say not extremely rare, in which complete relief may be afforded by the division of a muscle, and in no other way. I allude to spinal curvature depending upon *wry-neck* caused by contraction of the sterno-mastoid. This muscle is liable to contraction, both spasmodic and permanent. The former does not, so far as I have seen, affect the shape of the spine, and in two cases treated by division, did not yield to the operation. But the latter is apt to produce lateral curvature in every degree, and may be remedied with no less ease than certainty by subcutaneous incision.

Wry-neck, like club-foot, is sometimes congenital, but much more frequently, like squinting, and the *pes equinus*, occurs during childhood, in connection with some inflammatory or feverish state of the system. It depends upon a contracted state of the sterno-mastoid muscle, which has usually the feeling and appearance of a tense cord stretching from the clavicle to the ear. The head is bent towards the side affected, the face being turned in the opposite direction. Until the introduction of subcutaneous incision, the treatment of this complaint was very defective, since it consisted either in the use of mechanical support, which did little, if any good, or in cutting across the contracted muscle, together with its superjacent integuments, which was a painful and bloody operation, leaving a large sore, slow to heal, and apt to renew the evil during cicatrization. The subcutaneous process requires merely a puncture of the skin, is not attended with pain or bleeding, needs no dressing or after-treatment, and at once affords the relief desired. The following is the first case on record of its performance in Great Britain, which I extract from my tenth report of the Edinburgh Surgical Hospital.



*"Wry-neck depending on contraction of the Sterno-Mastoid remedied by division of the Muscle.*—Matthew Cullen, aged six, Dunbar, admitted November 2, 1832. The head was much inclined to the left side, and could not be elevated, owing to the rigid contraction of the left sterno-mastoid, the sternal part of which felt like a tense cord. The complaint had existed upwards of twelve months, and had resisted blisters, with other similar means of remedy. In these circumstances, it was thought necessary to divide the contracted part of the muscle. This was effected by entering a sharp-pointed narrow knife a little to the inner side of its tracheal margin, about an inch above the clavicle, and then pressing the blade against the tense fibres. A sudden snap, which shook the patient's frame, was immediately perceived, and all trace of the contraction disappeared. The knife was withdrawn, and the small puncture occasioned by it in passing through the skin afforded the only perceptible indication of what had been done. No pain or other bad consequence followed, and the cure might be regarded as at once complete."—*Ed. Med. and Surg. Journ.*, p. 115.

In the case just related, the disease existed in its simplest form, and without any affection of the spine, which is seldom wanting. It proceeds from involuntary elevation of the shoulder on the side affected, to lessen the strain on the head. This necessarily gives the dorsal part of the spine a corresponding convexity; and the lumbar portion bending in an opposite direction, to preserve the balance of the trunk, there results a lateral curvature, in no respect different so far as regards appearance, from its ordinary condition. I was asked, along with Sir Charles Bell, to see a young gentleman suffering from lateral curvature. Finding the right sterno-mastoid very much contracted, I proposed to divide it, and did so with the effect of redressing the spine immediately, so that before we left the house the youth was walking straight.

But if the distortion be permitted to continue, it sooner or later, as in the ordinary form of the disease, leads to alteration in the shape of the bones. The bodies of the vertebræ are compressed, and the sternum projects. In this case, of course, the operation cannot afford the same instant relief that follows its performance while the curvature depends merely upon muscular action. The head, however, is at once set free, to the patient's great comfort; and through the gradual improvement of time, the trunk, unless arrived at full maturity, may in a great measure regain its proper conformation. A few weeks ago, I saw, with Mr. Cruickshank, of Hill Place, a young lady from this neighbourhood, on whom I performed the operation in January, 1841. The back and ribs were then so much distorted, that I hardly ventured to hope for much improvement, especially as the patient was twenty years of age. It was therefore an agreeable surprise to find, instead of the low, thin, sallow, crooked, sickly-looking girl I had formerly seen, an erect, fresh-coloured, happy, healthy-looking young woman.

There is still another condition of the complaint, of which I may mention an instance that came within my notice last summer, in the case of a boy who was brought from the country on account of lateral curvature. Observing that his head inclined to one side, I examined the sterno-mastoid, and found it, not tense and rigid as I expected, but soft and yielding. I perceived, however, that when an attempt was made to raise the head, the muscle resisted and became tense, and therefore concluded that it was the seat of the evil. Under this impression, I proceeded to divide it, and succeeded in doing so, though with more difficulty than usual, from the want of tension, for which it was necessary to compensate by stretching the neck. A good effect was immediately perceptible, and the following day the patient's back was comparatively straight, which it has since, I am informed, become completely.

In concluding these remarks, it may be well to warn against mistaking for wry-neck depending upon muscular contraction, the distorted position of the head which proceeds from caries between the occiput and atlas. The latter disease, like the former, usually occurs in young persons, presents to a careless observer similar symptoms, and if confounded with it, leads to treatment not only useless, but extremely injurious. A young gentleman had for twelve

months used friction and exercise under the instruction of a distinguished member of the profession, who supposed that he laboured under wry-neck from contraction of the sterno-mastoid. No benefit having been experienced, it was thought that an operation might be serviceable, and with this view I was asked to see the patient. He presented all the characters and well marked symptoms of *spondylarthrocace*, or caries at the occipito-vertebral articulation, in a stage so advanced, that there was nothing left for me but to explain the nature of the case and predict the fatal termination, which soon afterwards happened.—*Lond. and Edin. Month. Journ. Med. Sci.*, April, 1843.

31. *Paralysis of the Bladder, cured by the Tincture of Cantharides.*—A patient was lately admitted into the Hôpital de la Pitié with paralysis of the bladder, for the relief of which all ordinary methods of treatment had failed. M. LISFRANC ordered the direct application of tincture of cantharides to the bladder by the following mode:—One drop of the tincture was let into the organ through a catheter, and followed by an injection of simple luke-warm water. Next day two drops were similarly instilled, and the like operation was repeated night and morning for several succeeding days, an additional drop of the tincture being added on each successive occasion. By this method of treatment a cure was soon effected. M. Lisfranc found no perceptible local irritation to result from the use of the tincture in an undiluted form, while the direct application of the remedy to the organ affected was clearly preferable, in every respect, to its internal administration.—*Lancet*, May 1843.

32. *Removal of the Patella.*—Mr. W. G. CONNOR relates in the *Lancet* (Ap. 22, 1843), a case of comminuted fracture of the patella with extensive laceration of the integuments, produced by the patient, a woman 38 years of age, being thrown from a cart. When seen by Mr. C. the day after the accident, he found the patella broken into five unequal parts, two of which were considerably comminuted, with an extensive external wound. The general state of the patient at the time was very unsatisfactory, the entire limb being much swollen and the patient in great pain. The whole patella was at once removed; the wound suppurated abundantly for a fortnight, and after the application of a few leeches, was healed by means of adhesive plaster and graduated compresses. In two months the patient had so far recovered as to be able to walk, and a few months afterwards she was able to follow her usual occupation, the surface of the knee having quite healed.

The necessity for the removal of the patella does not strike us as very evident.

33. *Spontaneous Cure of Uterine Polypus.* M. MARCHAL (de Calvi) exhibited to the French Academy of Medicine, Jan. 31, 1842, a polypus of the uterus which had been spontaneously detached. The history of the patient was as follows:—A woman, aged 48, was affected during three years with frequent attacks of metrorrhagia, accompanied with pains in the pelvis. The physician in attendance suspected inflammatory congestion of the uterus, and directed leeches to be frequently applied to the hypogastrium, and the use of baths, with perfect rest, &c. The patient, who was of very active habits, neglected this last injunction. One day while she was herself preparing a bath, she experienced, while in the act of lifting up a very large kettle of water, a tearing sensation, and a feeling as if something was ruptured deep in the genital organs, and perceived that something escaped through the vulva. On examination, this substance was found to be a polypus, exclusively formed of the tissue of the uterus. The polypus presented a body and a peduncle, is three centimetres long, and two broad. The peduncle is smooth on one aspect, but presents on the other a laceration, which evidently shows the way in which it was separated.

This case M. Marchal considers as unique, so far as the mechanism of the separation of the polypus is concerned. There are many examples of the spontaneous fall of polypi. MM. Hue and Hervez de Chegoïn have, among others, each recorded a case of the kind. But in both these cases, the separation of the

polypus was simply due to ulceration of its pedicle, and not to traumatic rupture. M. Marchal refers the mechanism of the expulsion in this case to the pressure of the intestines forced by the effort into the cul-de-sac of the peritoneum, and acting from behind forwards on the pedicle of the polypus.—*Lond. & Edin. Month. Journ. Med. Sci.*, April, 1843.

34. *Foreign Bodies in the Air-passages.* By MR. PITCHER.—A little girl, two or three years old, whilst playing with a pebble, suddenly swallowed it, and it was thought it had passed into the trachea. The child, however, continued playing about in perfect health, and there was not the slightest indication afforded by the stethoscope that a foreign body was in the air-passages. She had occasional fits of coughing, and after one of these, more violent than usual, was brought to him. He wished to see her during a paroxysm; this, however, he did not do, for shortly after the child fell dead, while in a fit of coughing. A rounded pebble was found in the rima glottidis, and there was a slight appearance of inflammatory action at the bifurcation of the trachea. It would appear that the foreign body had been playing up and down the trachea for weeks, and had at last become fixed in the rima glottidis. In this case a tracheal opening would have saved the patient. In the case of a child, three or four months old, who was being nursed under a hedge in a hay-field by a very young child, the infant was suddenly seized with a croupy kind of breathing, and its face became bloated. The child was treated for acute laryngitis, and died. A piece of cabbage-stump, lying obliquely between the vocal cords, was discovered after death. If the presence of this body could have been detected during life, laryngotomy could have been performed with a successful issue. These two cases had made an impression on his mind, and he felt determined, should a case warranting interference occur again, to resort to operative procedure. Some time afterwards he was requested by a surgeon to see a child who was supposed to have a tamarind-stone in the trachea. There were no symptoms of its presence, however, in this tube; the child remained well, and there was no irritation. An opening was made in the child's trachea and forceps introduced into the tube. No stone could be detected. The child fell into bad health, and acute bronchitis came on. It then became a question whether the bronchitis had not been induced by the opening in the trachea, and it was thought advisable to close it. Previous to this being done, however, the late Dr. Thomas Davies was consulted. He thought, after a most careful and minute examination, that the tamarind stone had not passed into the trachea at all, and that the aperture should be closed. This was done, the child rallied for a short time, but soon sank and died. On examination after death the tamarind-stone was found imbedded in the upper part of the right lung, having passed through the right bronchus. The lung was one mass of disease, and in quite a pulpy condition.—*Lancet*.

35. *Dissecting Aneurism of the Thoracic and Abdominal Aorta.* The following example of this is recorded by Professor WM. HENDERSON in the *Lond. and Ed. Month. Journ. Med. Sci.* for July 1843.

Margaret Robertson, aged 60, the mother of two children, was admitted into the Royal Infirmary, August 13, 1842. Her intelligence and memory appeared so imperfect, that little reliance could be placed on the scanty account which she gave of the history of her illness. All that could be ascertained was, that she had been affected for two or three months with the disorder of her breathing, and the dropsical infiltrations to be described, and that the former had been more considerable of late than formerly.

Her inspirations were short, and the expirations somewhat prolonged. There was inconsiderable oedematous swelling of the face, which was moderately coloured, a good deal of oedema of the feet and ankles, as well as a little of the thighs. She was ordered to take small doses of powder of digitalis with squills; and the further examination of her case was deferred.

12th September.—Within the last few days her complaints have considerably increased, and the following more particular circumstances of her symptoms



have to be recorded. There is much dropsical swelling of the lower extremities, and of the hands, and her urine is very scanty. There is considerable prominence of the sternum, and adjacent cartilages of the ribs, from the first to the sixth rib, which she says has always existed. The act of inspiration seems to be performed almost entirely by elevation of the ribs; the expiratory motion is prolonged as formerly, and the number of respirations is 36 in the minute. On the greater part of the chest the percussion-sound is unusually resonant, and the murmur of respiration is very feeble. On the extreme lateral aspect of the left side of the chest, from the level of three fingers breadths below the axilla, down to its lowest part, the percussion-sound is dull, and the ordinary respiratory murmur is supplanted by a few suberepitan râles, succeeded during each inspiratory effort, by short puffs of bronchial respiration. The dull percussion-sound extends round towards the back, and exists over the lower half of that aspect of the left side; and dry bronchial respiration, especially during the prolonged expiratory acts, is strongly marked over all the dull space. There is also strong bronchophony over the same extent. The pulse is 100, small and regular. She has been lying on the left side, and the integuments of that side are œdematous. The dullness of percussion in the region of the heart extends up to the third left cartilage, and to a nearly corresponding level on the sternum. The impulse of the heart is not particularly strong, excepting at the lower third of the sternum, and the point at which the apex strikes cannot be defined. The first sound of the heart presents nothing unusual, while the second sound has a remarkable intensity and clearness. This character of the second sound is chiefly distinguishable on the lower third of the sternum, and between the second and third left cartilages, yet is sufficiently observable on the fourth, fifth, and sixth cartilages of the same side, but on the upper half of the sternum it is less distinct than in these several situations. On the back, and especially on the left side, the second sound is audible to an unusual degree. She expectorates an inconsiderable quantity of yellowish mucus, mixed here and there with dark blood.

Her exhausted state did not admit of active treatment, yet after a small evacuation of blood from the arm, and other ordinary remedies, her breathing became, for a time, considerably relieved, and the signs of pneumonic condensation of the left lung gradually decreased, until, on the 6th of October, it was remarked that the extent of the dull percussion-sound on the back had become much lessened. The dyspœa, however, did not long continue improved, and became latterly so considerable as to make a half upright posture of the trunk necessary, and for more than a fortnight before her death, which occurred on the 9th of October, the anasarca swelling had become very considerable and extensive, until lessened by discharge from accidental abrasions on the lower extremities. She continued to expectorate blood, almost daily, mixed with yellowish mucus, and small ecchymotic spots appeared latterly on the upper extremities. With the increased difficulty of breathing, the pulse became very small at the wrist, but continued regular, did not exceed 100 in the minute, and did not beat less frequently at the wrist than in the region of the heart. The qualities of the urine were ascertained on the 16th September, on which day twenty ounces were voided, having a specific gravity of 1013, a good deal of yellow sediment, and inconsiderable coagulability.

*Autopsy.*—The body was examined on the 11th of October. For two or three inches from its lower margin, the left lung was found dense, and when divided, it yielded abundance of frothy fluid, and exhibited several solid masses infiltrated with a more consistent and yellowish liquid. The lower part of the right lung, on its diaphragmatic aspect, presented similar yellowish masses—the result of sero-purulent infiltration. At several points, but chiefly in front, the lungs were emphysematous.

Both ventricles of the heart were in a state of excentric hypertrophy, the left without increased thickness of the walls, the right, with a moderate increase of thickness. The valves were sound, with the exception of those of the aorta, which were a little thickened and indurated at their edges of attachment. The

aorta was removed, and the following account of its condition was drawn up at a subsequent period.

It is of moderate size, from its origin upwards; and exhibits very little disease on its inner surface. What disease does exist amounts merely to a few inconsiderable yellowish elevations. On the fore part of the vessel, a little beyond the origin of the left subclavian, there commences a slit in the coats, extending an inch and one-tenth in the direction of the axis of the vessel. From this opening, throughout its whole extent, the aorta consists of two canals, the one consisting of the old channel, the other of one exterior to it, on its left side chiefly, but partly also on its front, and communicating with the old channel, both by the slit already noticed, and by another a quarter of an inch long, running in the same direction, and commencing near the termination of the larger. The new channel extends half an inch beyond the origin of the left common iliac artery, and opens into it by an elliptical transverse aperture, occupying about one half of the calibre of that vessel. The new channel does not open into the right common iliac, but ends at the commencement of it in a blind extremity. The slits in the aorta have smooth and polished margins, and form narrow ellipses, each bounded at either extremity by an acute curve, firm, sharp, and polished. The partition between the new and old channels in the left iliac terminates in a sharp semi-lunar edge, equally firm and smooth as those of the slits in the aorta.

Almost exactly one longitudinal half of the aorta, from the superior fissure downwards, has been dissected so as to form the new channel. The latter is nearly of a uniform size throughout the thoracic portion, becomes a little dilated as if in progress to the formation of a pouch, just above the origin of the renal arteries, and it is at that point only that blood exists in the course of that channel. The blood is in small quantity, and consists of coagulated and discoloured fibrine chiefly, adhering with some degree of firmness to the exterior wall of the channel. Below the dilatation, the canal resumes its uniformity of size and figure. The thoracic portion lies less in front of the old channel than the abdominal does, which gradually turns to the fore-part of the vessel, so as to terminate near the origin of the iliac, as described. The septum between the old and new cavities presents a moderate convexity towards the latter, so that a transverse section of the two resembles that of the two ventricles of the heart, the left representing the old, and the right, appearing, as it does, to embrace the convex interventricular septum, representing the new channel. The inner surface of the latter is of a dull yellow colour, and is much roughened by the opaque clay coloured prominences, and atheromatous patches common in diseased arteries. The interior of the old vessel is less extensively diseased, yet is in not a few places gently elevated into longitudinal and transverse patches of a yellow colour. Near the point where the outer wall of the new channel meets the septum between the two, are, here and there, short cylindrical cords passing from the latter to the former. These cords are dense and yellow, and, though without interior canals, are manifestly, from their situation and the minute dimple, corresponding to each on the inner surface of the old vessel, the intercostal and lumbar arteries obliterated. In some places these arteries seem to have been torn away by the force which separated the outer wall of the new channel, from what is now the septum, from their attachment to these coats of the artery of which the latter is composed; for small apertures only remain along the side of the septum, here and there, to mark the points at which the arteries had been given off.

A membrane, firm and easily demonstrated, lines the new channel throughout its whole extent. That it is a membrane, new, and proper to the adventitious canal, is shown by the circumstance, that it can be separated transversely in a stripe continuous from the outer wall to the septum, and so round the whole inner surface of the canal, and of course across the angles at the point where the outer wall and the septum meet. The walls of the old and new channels are firm and dense, and the following arrangement of the tunics can be easily traced on the cut surface of a transverse section of the two.

1st, There is an external coat, common to the two channels. 2d, A thicker

layer, having transverse fibres, and constituting the middle coat of the artery, splits into two at the sides of the new channel, the one layer forming the chief part of the thickness of the septum, the other and thinner forming a middle coat to the outer wall of the new channel. 3d, Each channel has a lining membrane of its own,—that of the new being the thicker and firmer of the two, and when a slip of it was examined by means of a pretty high magnifying power, it exhibited a fibrous structure having a close resemblance to that of the *ligamentum nuchæ* as figured in Gerber's General Anatomy; and easily distinguishable from that of the middle coat of the artery. The fibres had a somewhat oblique transverse direction.

It thus appears that each channel is invested by three tunics, the septum being of course common to both. In fact, so perfectly does the new channel resemble an artery in its structure, that it does no violence to the truth to regard the aorta, from the left subclavian to the iliacs, as having been converted strictly into a double artery.

The case of which the foregoing particulars have been detailed is interesting, chiefly on account of the anatomical changes which had occurred in the aorta. The symptoms and physical signs of disease connected with the organs of circulation, were not of a kind to throw any light on the nature of the disease which existed in the vessel. The loud second sound that proceeded from the valves of the pulmonary artery, which appeared very clearly to be the source of it, from the limits which it presented in front, gave evidence, along with the increased energy of the impulse at the lower extremity of the sternum, that the right ventricle was hypertrophied, a condition which appeared to be connected with the emphysematous state of the lungs. There was no ground to conclude, from the character of the signs and symptoms, that any disease existed in the aorta. On examining the vessel, however, after death, it appeared highly probable that much of the difficult breathing, and the enlargement of the right ventricle, were owing to the remarkable disease which it presented. The new channel obviously, when distended with blood, must have lessened by its pressure the calibre of the old vessel, while, at the same time, the outlet which it possessed into the left iliac was too small to allow of a compensating freedom of circulation through it, so that there must have resulted an obstacle to the transmission of blood through the left side of the heart, and consequently, through the lungs and right side.

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36. *Some new considerations on the Effusion of Blood, and the Formation of Sanguineous Tumours after Wounds of Blood-vessels; and on the mode of Formation of Arterial and Venous Cicatrices.*—In a memoir on this subject, read before the French Academy of Sciences on the 6th and 20th February last, M. AMUSSAT maintained:—

1. That the bloody tumours consequent upon the opening of a vessel by a small wound in the skin, present a tendency of extreme importance in practical surgery, viz: that they constantly have a central canal.

2. That this central canal, which may be compared to a chimney, or to the crater of a volcano, ought to be called the conducting passage, (*trajet conducteur*), because it is the surest guide to the wound in the vessel.

3. That there exists a perfect analogy on this point, between the observations made on man and direct experiments on living animals.

4. That the difficulty of finding the wounded vessel, and the serious and sometimes fatal errors which have been committed by the most distinguished surgeons in such circumstances, prove the necessity of studying these tumours upon living animals, so as to learn how to recognize the passage in the wound, and surmount all difficulties.

5. That the best proceeding is to follow the passage to the wound, which is formed in the centre of the super-imposed masses of blood, to the cellular tissue surrounding the wound.

6. That this proceeding gives the triple advantage of finding the wounded vessel, so that it may be tied, or twisted as near the wound as possible, and the disorgement of the tumour promoted.



7. That arterial hemorrhages are almost always fatal in horses and sheep, but frequently stop spontaneously in man and the dog, which would indicate that the blood of herbivorous is less plastic than that of carnivorous and omnivorous animals.

8. That when death is the consequence of arterial hemorrhage, the venous system remains gorged with blood, which proves that the impulse of the heart is necessary even for the venous circulation.

9. "Lastly," says M. Amussat, "a practical conclusion of great importance results from my experiments, inasmuch as they show that we are often in too great a hurry to operate in cases of arterial wounds, and that we err in not relying more upon the possibility of the formation of a solid arterial cicatrix, by employing methodical compression and generous measures; or, in other words, the formation of an aneurism is not the inevitable consequence of a wound of an artery, as is generally believed."

As regards cicatrices, M. A. concludes:—

#### I. *Arterial Cicatrices.*

1. The frequency of aneurisms after wounds of arteries in the human subject, had caused surgeons to abandon the hope of obtaining arterial cicatrices; and it had been considered as decided, that arteries could not be repaired by a solid cicatrix.

2. My experiments on living animals, along with some facts observed on the human subject, establish the possibility of obtaining permanent arterial cicatrices. They fully confirm the views of J. L. Petit.

3. Arterial cicatrices are never formed by the immediate union of the lips of the wounded vessel. It is always by the intervention of a clot of fibrine which adheres to the margin of the opening, hardens, becomes organized, and assumes all the characters of, and becomes identified with, the walls of the artery.

4. In practice, sufficient endeavours are not made in wounds of arteries to cause them to cicatrize.

5. In general, there is too great a hurry to operate, from the anxiety to prevent what is erroneously believed to be otherwise inevitable—an aneurism.

6. To obtain solid arterial cicatrices, it is necessary to give appropriate support to the clot, to diminish the impulse of the heart, and to keep the part in as immovable a state as possible; in a word, to use all the means that would be adopted to obtain union in a case of fractured bone.

#### II. *Venous Cicatrices.*

1. The cicatrices of wounded veins are formed like those of arteries, *i. e.* by a clot of fibrine becoming organized, and effectually closing up the wound.

2. To obtain the cicatrization of an artery or vein, appropriate pressure must be sustained for two or three days after the injury; and for a vein, the longest period is required.—*Lond. and Edin. Month. Journ. Med. Sci.*, Ap. 1843.

37. *Hare Lip*.—In our No. for July, 1842, p. 188, we gave an abstract of a communication made to the Surgical Society of Ireland, by Dr. Houston, the principal object of which was to recommend early operation for the removal of hare-lip. At a meeting of the same society on the 8th April, 1843, Dr. Houston communicated an account of another case tending to confirm the views previously advocated.

The subject of this third case is a male infant, eight weeks old, admitted into the city of Dublin Hospital, Dec. 7, 1842.—"The upper lip is deeply fissured; the fissures running into the nostrils, and the lateral pieces being nearly equal. The hard palate is cleft from front to back, and the lower margin of the septum nasi hangs loose in the cleft. A bony tubercle stands forwards from the septum, so prominent as to project beyond the nose, and holding two teeth, which already, by their size, threaten to cut the gums. A central piece of lip, corresponding to this tubercle, grows from the lower part of the tip of the nose, and is of considerable thickness and breadth. The soft palate is altogether wanting. In the act of crying the entire cavities of the mouth, nose, and fauces, are thrown open. The child is incapable of sucking, and the only milk it receives is that poured

by the mother from her breast into its mouth. It is extremely puny and pale, and is evidently suffering from inanition. It weighs only twelve pounds.

[Here Dr. Houston exhibited a picture of these deformities.]

December 8.—The operation was performed by Dr. Houston, assisted by Professors Benson, Hargrave, Williams, and Mr. Orr. As the first step, the central tubercle of the bone was cut off with strong scissors. Considerable hemorrhage took place from the exposed surface. One pulsatile artery, in particular, lying in a soft tissue between the mucous membrane and the bone at the lower part of the projection, shot out blood with a forcible jet. Ruspini's stip-tic, with exposure for ten minutes, failing to arrest the bleeding, the nitrate of silver was applied with immediate success.

The edges of the fissure in the lip were then, in succession, raised from the bone with a scalpel, and excised with scissors from near the corners of the mouth fully into the nose. Two long needles with the hare-lip suture brought the bleeding surfaces accurately into apposition. On the instant of tightening the ligatures difficulty of breathing, amounting almost to suffocation, came on, produced by the suddenness and almost complete closure of the nostrils, and the overlapping of the loose lower lip on the tightened and diminished upper one. On holding down the lower lip relief was instantly procured, but on letting it loose again the same embarrassment ensued. The aperture of the nostrils was so narrowed that no attempt at any improvement in the condition of the central fleshy tubercle could be made; it was therefore left untouched, in order that, if a perfect union of the hare-lip should take place, this tubercle might, by a subsequent operation, be brought down and converted into a septum nasi, by bringing about a union of its point to the centre of the newly formed upper lip. No farther dressings were applied. The mother was instructed regarding the danger of suffocation from the mal-position of the lower lip, and taught how to remedy any embarrassment of breathing that might occur.

Evening.—Much relieved: mouth better opened; breathes more steadily; has taken suck poured repeatedly into its mouth during the day. Its previous habit of being fed with suck in this manner was here found very beneficial.

9th.—Breathing still embarrassed, but always much relieved by holding down the lower lip. Takes suck freely and easily; no vomiting; no inordinate inflammation; sleeps as usual; bowels confined. Injiciatur enema purgans.

10th.—Has passed a good night, and swallowed suck and boiled milk abundantly, and, as the mother says, more effectively than before the closure of the lip by operation. The bowels freed by the enema.

10 o'clock, A. M., (forty-eight hours after the operation.)—The dressings were removed, when the union was found complete and firm in every part—down to the sharp edge of the red border of the lip, and up into the centre of the nostrils. There was not a hair's breadth of failure in the union of the parts brought together with raw surfaces. The line of union was perpendicular, and the flaps lay exactly on the same level. The lower needle dropt out readily, being loosened by suppuration. But its withdrawal threatened ill; for the lip, when deprived of its support, flapped out and in with the breath, in consequence of the absence of gums or other support behind it—a circumstance which suggested the propriety of leaving the other needle still in its place, although sufficiently loose for removal. Nothing could have shown more the firmness of this union, of only forty-eight hours growth, than the fact of its being able of itself thus to withstand the perpetual motion to which it became subjected from the cause above stated. The cheeks were now well drawn forwards by adhesive plaster to avert any dragging in the lateral direction.

An enema was ordered, and directions given to have the milk supplied to the infant in moderate quantities, for fear of bringing on vomiting, by which the new adhesions would likely be torn asunder.

10th (seventy-two hours)—The union perfect and secure in every part. The upper needle, loosened in hanging half out, was withdrawn, and the same dressings and precautions as before, adopted.

16th.—The union strong and uniform. The health better than before the operation. Regrets were now felt that the upper needle had not been removed at the same time with the lower, as the holes made by it were still unhealed, and appeared larger than those made by the needle removed at the end of forty-eight hours. It was considered advisable to allow the union which had been thus gained to become perfectly secure before attempting any thing farther, and therefore the mother was permitted to remove the child from hospital, with directions to return with it in a few weeks.

January 26, 1843.—The infant was brought back, increased two pounds in weight, in excellent health, and with the union strong and free from all traces of inflammation.

The second operation—that of converting the prominent fleshy tubercle, which hung from the tip of the nose, into a septum narium,—was now proceeded with.

This movable piece being of a length to touch by its point the upper margin of the newly constituted lip, the object in the present operation was to effect a union between these two parts, and also, if possible, to join the posterior surface of the former to the remains of the septum, from which in the first instance the osseous tubercles had been cut away. To accomplish these objects, the surfaces designed for contact and union—viz., the lower end of the fleshy tubercle, and the centre of the upper lip, the back part of the same tubercle, and the anterior part of the bony septum, were all pared and made raw. The tubercle and lip were then brought together by a single stitch, and a pin was driven through the centre of the tubercle back into the osseous septum. The fleshy piece, when so placed down, lay like a lid on the opening, covering it completely over. The only thing remaining to be done was the paring of its edges, so as to fine it down, and make a passage on each side for nostrils. But, as an additional violence of this nature would be likely to cause a degree of inflammatory excitement incompatible with the kind and amount of union sought for, it was deemed prudent to defer this modelling process until these objects had been first secured. A light compress kept on by a slip of adhesive plaster constituted the only dressing. On the second morning, the suture which held the tubercle to the lip was removed; and, on the third, the pin which fixed it to the osseous septum was pulled out, both having at these dates been found loosened by supuration. In undertaking this part of the operation it was to be feared that the pressure of the ligature on the recently formed bond of union in the upper lip, through which it became necessary to pass it, might cause ulceration there; or, that the irritation produced by the pin might prove fatal to union; but in both particulars the apprehensions turned out to have been groundless, for the union in the upper lip remained uninjured; and all the parts became united, to the full amount contemplated, with very little inflammatory, and no feverish, disturbance.

Permission was a second time given to the parents of the child to remove it from hospital until the effects of the recent operations had fully subsided; and on the 6th of March following it was again brought back, when the fleshy tubercle, now firmly united in the mesian line between the tip of the nose and the centre of the upper lip, was trimmed into the shape of an ordinary septum nasi by slicing off its sides with a scalpel. In a few days the incision thus made healed over, and the infant, scarcely now recognisable as the same individual, continued to improve rapidly. The appearance of the child, of which Dr. H. exhibited a portrait, is now even handsome. The upper lip, although necessarily somewhat thin and flat from the great amount of original defect, and from the quantity of substance removed in order to get rid of the rounded angles, is perfect as a whole, and straight along the lower edge.

The vertical line of union in the upper lip, as well as that marking the point of junction between the septum and lip, are scarcely perceptible. The septum is straight, and of the ordinary thickness, the nose itself is good, and the nostrils, open and well formed: the *tout ensemble* making really a comely face. Since the operation a diminution has been gradually taking place in the width of the palatine fissure, so remarkable that the mother herself has noticed it. She



says, that whereas formerly this fissure was so open, as to admit the end of the finger, its margins have now become so approximated as nearly to touch in the mesian line.

Dr. Houston then proceeded to make some observations on the case. He considered that it gave a full corroboration of the views which he had advanced in his communication of last session to the society regarding the time of life most suitable for the safe and efficient performance of the operation—the mode of operating—the advantage of the employment of scissors in preference to the scalpel, and the efficiency of the long woollen needles in closing the wound in the lip. He considered no stronger evidence could be given of the resiliency of an infant under operation, and the strength of its reparative powers than was exhibited in this case, in which, notwithstanding its puny condition, the infant bore up against three operations within thirteen weeks, before it had reached an age of six months, and these not only with perfect success and without any untoward symptoms, but actually with an improving state of health during the whole period. The age which he considered best for undertaking the hare-lip operation was about the third month, and the results of this complicated and unfavourable case, together with others already published, gave him much confidence in adhering to such an opinion. The danger of failure is the only argument against the general adoption of this plan, and such results as the foregoing are well calculated to diminish apprehensions on this head. The time for the removal of the needles is a matter for which no general rule can be laid down. Dr. Houston stated that in the cases reported by him formerly they had been left in the lip, in one child of two years and a half, for seventy-two hours; and, in one of three months, for sixty hours. In the present instance he found the union complete, and able to dispense with their support in forty-eight hours. Sixty hours he supposed might, therefore, be taken as the average period for leaving them in. Beyond that time there is danger of festering of the needle-holes.

Respecting the treatment of the central fleshy tubercle, it will be observed that it differed in this instance from that of a somewhat similar tubercle in the case of Mary Fox, already published in the proceedings of this society. (See this Journal for July 1842, p. 188.) The difference arose from the position of the attachment of the tubercle. In the former instance it grew from the root of the nose on a line with the upper lip; in the latter, its connection was with the tip of the nose. In the former it was brought down to make part of, and to complete the lip, and was taken in upon the needle introduced for that purpose, the whole operation being completed at one sitting; in the latter the tubercle was reserved for a different object—that of making from it a partition between the nostrils, and a second, and even a third operation became necessary for that purpose. The central tubercle in the latter instance might, equally as in the former, have been pulled down and united in the space which lay between the two pieces of the lip; but to have done so would have flattened the nose on the face, and closed up the aperture of the nostrils. The propriety of the difference in the treatment to which these two apparently similar pieces of loose flesh were subjected, has been satisfactorily proved by the results.

Dr. Houston said that, if it were not for the danger to life supposed to attend on early operation, there would be no question at all as to the propriety of removing the defect at the earliest age possible; and the object of his communications on this subject has been to show, not so much that a more effectual removal of the deformity and of the inconveniences attendant on it follows early operation, for that was admitted on all hands, as to demonstrate that such dangers were overrated. He had never seen convulsions follow the operation; and he knew of no other evil consequences to which the infant was liable at that age, to which it was not equally subject when a year or two older. He could not be persuaded but that a fair and legitimate argument in favour of early operation for simple cases was to be drawn from successes in the worst and most complicated forms, when operated on at the same comparative periods of life, such as that presented in the case before the society, and others which had been

already published. Besides, several instances of successful operation on simple hare-lip, at ages, varying from a few days up to as many months, had actually been re-recorded since the attention of the profession had been drawn to the subject.

Professor WILLIAMS observed that if the early operation was certain to succeed, and was exempt from danger, it should of course always be performed; but these were the very questions that had to be determined. The general tendency of practitioners at present was, and has been for a long time back, not to operate at a very early period of life, because they thought the operation was then more likely to fail and also more dangerous; convulsions, for example, it was agreed might follow the early operation. The great success which attends the operation at one or two years could not surely be an argument in favour of its performance at the age of one or two months; such an argument, on the contrary, it applied to all, cut the other way. It was said that as the aggravated cases in which the early operation was imperative, always succeeded, *a fortiori*, the early operation must always succeed in the simpler. But the early operation did not always succeed in those aggravated cases: Professor Williams had several times (he distinctly recollected three cases) seen it fail in the very best hands. Professor Williams said he must again repeat that he did not intend or wish to argue for or against the early operation in ordinary cases. On the contrary, he thought it one of those questions that was fairly open to examination; he merely wished to convey that it was a question that could not be settled without having the results of a considerable number of cases; and two points had to be determined—the relative chances of obtaining union, and what was more important, the relative chances of danger from convulsions, &c. He also had attempted to show that such cases, as the one mentioned this evening, must be operated on early whatever may turn out to be the fact with respect to the simpler cases.—*Dub. Med. Press*, April 19, 1843.

38. *Penetrating Wound of the Abdomen—recovery.*—Mr. WM. HUTCHINSON relates in the *Dub. Med. Press*, (July 19, 1843,) a case of wound of the abdomen, which is remarkable for its severity and the quick recovery of the patient.

The subject was a woman *ætat.* 35, who “slipped from the top of a ditch, and the stump of a thorn tree, recently cut, penetrated into the abdomen, making a wound, extending from the crest of the right ilium, to the pubis, nearly parallel to Poupart’s ligament. The opening in the peritoneum extended to the sheath of the recti muscles. Her cries brought some people to her aid, who *lifted* her off the stump, when the intestines protruded and covered the abdomen, as I was told by the Rev. Joseph Morton of Elphin, who was visiting through the parish, and with his well known humanity crossed several fields to see what was the cause of distress, and found her in the state described, lying on the ground in great agony. He sent immediately for assistance to Elphin, but knowing the danger of leaving the bowels unreduced, he courageously set about their reduction, and succeeded after an effort of an hour’s duration. The doctor (O’Beirne, I believe) brought adhesive plaster, which he judiciously applied, and also a bandage. She was then removed to her house, and in the evening was brought to the infirmary (about five miles.) There was no hemorrhage; her countenance pale and exceedingly anxious; pulse scarcely perceptible; skin covered with a cold clammy perspiration, and shivering like a person a long time immersed in a cold bath. She was placed in warm blankets, warm bottles applied to her feet, and ordered small draught of mist. camph. and sp. ammon. aromatic, and a pill of opium, gr. ss. with two of calomel, and directions to summon me, if necessary. I left her scarcely expecting to see her alive next morning.

19th.—Pulse had become firm and not more than 90; countenance the same as yesterday; slight tenderness all over right side of abdomen. Although I saw no urgent necessity for venesection, I bled her from the arm to xij. oz., and gave her calomel with opium in small doses every three hours, and this, with the occasional use of the house enema, was the only treatment employed. The mouth became sore the third day. There being no tendency to protrusion of

the bowels, I thought it time enough to employ sutures when wanted, contenting myself with the adhesive plaster. The wound healed like any extensive one of the soft parts, without farther trouble. She was the mother of four children, the last being only three months old, she continued on the breast the whole time she was in hospital, and was discharged cured the 12th of May.

39. *Nail of the great toe growing into the flesh.* By A. COLLES, M. D.—In this disease we observe, at the angle of junction between the anterior and external edges of the nail, an ulcerated fungus, into which this angle, as also a portion of the outer edge of the nail, are more or less sunken. The colour of the fungus is rather florid, its surface is smooth: the discharge is purulent, in small quantity and tolerably healthy, unless the part have been irritated by too much exercise of the limb or by some external application or local injury; there is little or no surrounding inflammation, no enlargement of the toe, and the pain is in general trifling, unless during exercise, when the weight of the body on the limb causes the nail to press into the soft substance of the fungus, which thus often induces considerable uneasiness and lameness.

This disease does not appear to me to have any tendency to spread to, or to involve the adjoining parts, as I have seen cases in which it has remained stationary for some months, and in one for two years, at the end of which period the symptoms were in no way more severe than at the commencement, although most writers assert that it generally passes into malignant onychia. The origin of this troublesome affection is usually attributed to the effects of a tight boot or shoe, or to some accident in cutting or breaking off the end of the nail. In many instances, however, no cause can be recollected or assigned for its occurrence.

The unaided powers of the constitution do not appear capable of curing this disease; hence various methods of treatment have been employed by different surgeons: such, for example, as (according to Desault) introducing a small plate of tin under the edge of the depressed nail, and insinuating it between the latter and the fungus, with the two-fold intention of compressing the fungus and of elevating and everting the edge of the nail, so as to make the latter completely overlap the former. This plan of treatment has not stood the test of experience, and Desault himself admits that it is very tedious, and often very painful for several days; that the fungus does not entirely disappear before two months, and that even after this, the metal plate must be occasionally worn to guard against a relapse.

Caustics of different sorts have been employed by others, and Mr. Wardrop, in his paper in the 5th vol. of the *Medico-Chirurgical Transactions*, particularly recommends the *argenti nitratum*. I have employed this remedy myself, and have seen it also used by others, but I regret to say, not with that degree of success which Mr. Wardrop's recommendation would lead us to expect. I have, however, found some benefit from this application. Under it, the fungus has become reduced in size, also less irritable, but these improvements have continued only for a few days, after which the parts returned to their former condition.

Sir Astley Cooper, in his lectures, and Dupuytren, in his *Leçons Orales*, recommend an operation for the cure of this disease, the directions for performing which are essentially the same by each of these distinguished surgeons, viz:—pass one blade of a scissors beneath the nail, from its anterior edge up to the root, then cut through the entire length of the nail, next seize the outer segment with a strong forceps, and by means of these tear it off the toe.

This operation inflicts a great degree of suffering, because in this disease the nail is not, as in onychia, separated from the muscular and highly sensitive matrix, except only through a small extent of space, not more in any direction than a quarter of an inch at its external angle; and, therefore, the scissors pushed upwards between the nail and the adherent matrix, and the forcible evulsion of the former by the forceps, must cause exquisite pain, which though of short duration, can be regarded as nothing short of actual torture. A similar operation



is also recommended by Mr. Liston, in his recently published work on surgery. Notwithstanding these authorities in favour of this plan of treatment, I am by no means an advocate for this peculiarly painful and distressing operation, but on the contrary, I believe we may be relieved from the necessity of performing it, and that we can in all instances effect a permanent cure by a very simple operation, and one comparatively free from suffering; namely, by confining the excision of the nail to so much only as is already detached from the matrix. All of this portion, as well as that imbedded in the fungus, must be removed.

To effect this I proceed as follows:—While an assistant with a spatula presses down the fungus, I seize with a forceps (with strong flat blades, like those of the torsion forceps) the edge of that portion of the nail which is to be removed. I then pass a probe with a thin flat extremity beneath the nail, close to the fungus, as high as it can go, taking care to direct it towards the outer edge of the nail; this enables me to judge how far the nail is detached. I then take a strong crooked scissors of a large size, with one sharp-pointed blade: this I introduce beneath the nail as far as the probe has directed me. With one stroke of the scissors I then cut off all this detached portion of the nail, while by means of the forceps I draw it away with moderate force. Should this attempt fail to remove it, I then re-examine the part with the probe, and again introduce the scissors as high as they can be pushed. A second cut will then complete the separation, and admit of the easy removal of this part of the nail. This second attempt is sometimes attended with a sharp momentary pain, as the point of the scissors often enters a short distance into the sensitive matrix. The portion of detached nail presents no change of texture whatsoever; but a few drops of blood follow this operation. The only dressing required is a small bit of dry lint, which is to be pressed firmly with the probe between the fungus and the edge of the nail. In a few hours the toe is free from pain, and the patient can walk without any lameness or uneasiness in three or four days after the operation. The dressing continues perfectly dry, and needs not be changed until the fourth day. At this time the fungus will be found much reduced in size, perfectly dry, and of a firmer consistence. A small bit of lint is to be reapplied as before; it should not, however, be pressed down so firmly as at the first dressing. In the course of ten or fifteen days the fungus will have entirely disappeared, and the parts be restored to a healthy state. I have never found it necessary to apply the olive-shaped cautery to destroy the fungus, as described by Dupuytren. In the course of this treatment I also advise the patient (in compliance with the rules laid down by authors) to scrape the upper and outer surface of the nail with a sharp pen-knife, or with a bit of glass—an instruction, however, which the patient neglects as soon as he feels himself relieved from pain.

It affords me much gratification to be enabled to state, that in no instance have I met with a case of relapse, after this operation has been efficiently performed. But the result of the operation itself is not in all cases so successful as I have hitherto represented; for in some instances, four or five days after the operation, the patient will complain of some uneasiness in the toe, when we shall find on examination that the dressing is moistened with a little discharge, and that a small portion of a whitish substance, like soft and swollen leather, is rising up through the fungus. This substance may be regarded as a sort of accessory unguat filament, arising close to the original nail from the anterior and outer border of its matrix, and which is now altered in texture and direction. This filament is so soft that it breaks and tears if caught by the common dissecting forceps. In order, therefore, to remove it, (which it is necessary to do,) we must seize it with the torsion forceps, and excise it with one cut of the scissors, passed well and fully beneath it. The lint dressing is to be reapplied in the manner before mentioned, and the case will proceed without further interruption to a perfect cure.

Before I dismiss this subject of “the nail growing into the flesh,” I may add, that I have seen many cases of this disease remaining unchanged for months, and even for a year and upwards; and I have never yet met with an instance

in which the ulceration has extended so as to induce that more severe disease of "onychchia maligna," although some writers of high reputation have described this latter as an increase or extension of the former.

There is another morbid affection, which occasionally engages the anterior and inner angle of the great toe nail, and which causes considerable lameness and uneasiness, particularly on pressure. This affection is often mistaken for an attack of gout, particularly in those persons where such an attack may be expected, or even desired. In this disease there is no swelling or redness; but pain, on pressure, at the anterior and internal angle of the nail. On a close examination of this spot, we find that this angle rests on a hard, white mass of laminated, horny cuticle, which we can easily remove in bran-like scales, when we shall see a small cup-like cavity, without any ulceration or disease. The ungual angle appears thick and bulbous opposite this point, and the pain is caused by its pressing against this mass. This affection is easily cured by scraping away all this substance, and excising the bulbous angle of the nail, and then interposing a little lint. Attention is required, for some little time, to remove any unhealthy growth of the cuticle or nail, and to secure the patient from any further uneasiness. Finally, I may remark, I have never seen this disease engage the outer angle, neither have I seen that last described engage the inner angle of the toe nail.—*Dublin Medical Journal*.

40. *Onychchia Maligna of Great Toe*. By A. COLLES, M.D.—This painful disease is often the result of some local injury, such as a heavy weight falling upon or rolling over this part. It occasionally occurs without any assignable cause. In some instances, the nail is found very much altered from the healthy state, being of a dirty brown or black colour, and adhering to its matrix in detached spots only, while it is separated from it both at the root and to a considerable extent of its under surface. In other cases it has been altogether thrown off, and a foul ulcer occupies its site. This ulcer presents jagged edges, and unhealthy surface, with an ichorous discharge, and extends along the toe above or beyond the matrix of the nail. Both phalanges are swollen, so that the circumference of the toe is increased by at least a quarter of an inch, the last phalanx presenting a very peculiar bulbous shape. When the original nail has been cast off, we usually see projecting from the sides and tarsal border of the ulcer a narrow plate of a white substance, not unlike white leather soaked in water; this sometimes forms one continuous shelf all round the ulcerated border, projecting in a peculiar prominent manner, that is, rather at an angle to, instead of being on a plane parallel to the dorsal surface of the phalanx. In some cases, this white substance (which is the result of an abortive attempt to produce a true nail) appears only in detached spots or flakes, the intermediate parts of the ulcerated margin being devoid of any such growths. They are most frequently seen at the posterior and anterior angles of the nail, but occasionally in other parts of the circumference. The surrounding integument is discoloured, being often of a livid or purplish tint; it is also indurated, and exudes a copious perspiration of a peculiar heavy odour. This ulceration sometimes induces caries of the bone, and even extends to the phalangeal articulation.

All modern authors concur in the opinion, that onychchia depends upon a morbid condition of the secreting matrix of the nail, and that it can be cured only by removing, by excision, this diseased organized structure; and no writer, that I can recollect, encourages the idea of a permanent improvement being possibly effected by any other local treatment. I admit that the operation of the complete removal of the entire of this diseased matrix does effect the cure in a very short space of time, provided the bone or joint is not diseased, (in which case amputation is inevitable,) and that, subsequently, rest and simple dressing will alone accomplish the healing process, the place of the nail being supplied by a dense hard skin. But still this operation is not without objection. It is always attended with severe pain, and which sometimes continues for many hours. It also too frequently happens that the disease returns in some one spot or other, owing to the matrix not having been wholly eradicated, which indeed it is often

extremely difficult to do; for the shape of the toe is so bulbous and so deformed, the textures so changed and so condensed by chronic inflammation, and the edges of the ulcer are so raised over the part to be removed, that even an anatomist cannot easily recognise the relations of the several tissues involved in the disease, or ascertain the exact extent of the substance to be excised. During the operation also, the flow of blood is so profuse as to prevent the operator distinguishing one texture from another; accordingly, it occasionally happens, that the patient, having enjoyed an immunity from pain for some days after the operation, becomes alarmed by feeling a slight return of his former uneasiness on any exercise of the limb, or on any pressure on some particular spot, generally on one of the angles of the original ulcer: and the surgeon, on a careful examination of this spot, finds there is still a little ulceration, and a fresh production of that unguai growth, already described as abnormal both in texture and in direction, and which indicates the persistence of some of the diseased matrix. This will again act as a foreign body, exciting constant irritation, and will soon lead to a renewal of all his former sufferings, and for the removal of which the excision of this morbid tissue must be repeated. Any surgeon who has experienced this disappointment can, I am confident, bear testimony to the horror with which the patient has contemplated, and the reluctance with which he has submitted to a repetition of this peculiarly painful operation. I have known it necessary to repeat this even a third time; and therefore, whenever the secondary operations become necessary, I should remind the surgeon that to insure success he must cut much more deeply and extensively than he might at first suppose to be necessary.

Notwithstanding these objections to this operation of excising the diseased matrix, I yet admit, that when it is properly performed, it will be followed by a speedy and a perfect cure. However, I am of the opinion, founded on some experience, that this disease may be cured without resorting to such a painful measure, by external applications alone, which are unattended with pain, and which, in a few days, will induce a considerable amendment, and even a perfect cure in the course of three or four weeks. The plan of treatment, which I have pursued for some years, and, as yet, with invariable success, is as follows:—I confine the patient to bed, and direct a poultice to the toe for two or three days. I then cleanse the ulcer carefully by directing on it, from some height, a small stream of tepid water from a sponge. I next cut away as much of the loose nail as I can, without pain or irritating the sensitive surface around, and then I fumigate the part by means of the mercurial candle, containing  $\mathfrak{z}\text{i}$ . of the hydr. sulphuretum rubrum (olim cinnabar) to two ounces of wax.\* This fumigation is to be applied night and morning, and, after each, the toe should be gently enveloped in lint or linen, lightly spread with ung. spermaceti. In four or five days, the patient will express himself as considerably relieved; the discharge from the ulcer will be found of a healthy, purulent character, and the appearance of the whole part much more favourable. The fumigation is still to be persevered in, and all projecting portions of nail to be closely cut. I consider this latter direction as very essential, as thereby the mercurial fumes can have more free access to the surface of the ulcer. In proportion as the ulcer improves, it is interesting to observe, so does the condition of the growing nail; it acquires not only its natural firm and horny consistence, but also assumes its proper horizontal direction. For some time after the general surface of the ulcer has been healed, there still remain small spots of ulceration, generally at the angles, around some white germs of new nail. Against these points, the full force of the mercurial vapour should be directed. This can be effected by adding a small conical ivory tube to the funnel. I attribute much of the success of this treatment to the use of the mercurial candle, in preference to fumigation in the ordinary mode. I must observe, that during this course of treatment the patient must absolutely abstain from walking, or even standing on the affected limb; exercise but for a single day will counterbalance all the amendment produced

\* See Colles's *Practical Observations on the Venereal Disease*, p. 58.



by a week's rest and fumigation. In the cases which I have thus treated, I have had no recourse to any constitutional treatment, or to any peculiar regimen. No doubt, cases must occur in which there will be derangement of the general health, and which will require suitable constitutional remedies before we can expect to cure the local disease by mere local applications. I make no doubt that this ulceration may sometimes arise from, or be so intimately connected with some constitutional derangement, as to be incurable without the aid of constitutional treatment. Mr. Wardrop, in his paper above alluded to, has recommended a cautious and judicious use of mercury, and has recorded some instances of its success.

The uniform success which has attended this plan of treating onychia by mercurial fumigation, during the last few years I have adopted it, leads me to hope that the surgical operation I have already alluded to may in future be dispensed with; but even should more extended experience prove that I have been too sanguine as to this expectation, yet I feel persuaded that this practice cannot be injurious, and that it will never fail to improve the condition of the ulcer, and of the surrounding parts, reducing the enlargement and removing the deformity of the toe; so that, even should the operation be ultimately necessary, the surgeon will be better enabled to ascertain the exact situation and extent of the disease, and thus, by a single operation, to remove the whole of the matrix so effectually as to secure his patient from any relapse: therefore, the time which has been occupied in the fumigating process cannot be considered as lost or misapplied.—*Ibid.*

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41. *Incontinence of Urine cured by Vermifuges.*—M. PERRIER relates a case of this character in a lad seven years of age. Not finding any cause for the disease, M. P. suspected that it resulted from worms, and prescribed a vermifuge which brought away thirty large lumbrici, and the boy was at once cured of his incontinence of urine.—*La Lancette Française*, May 27, 1843.

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42. *Ovarian Tumours.*—The No. of the *L. & E. Monthly Journ. Med. Sci.* for June last, contains an interesting paper by ALEXANDER KILGOUR, M. D., one of the Physicians to the Aberdeen Infirmary, the object of which is to furnish some hints for a diagnosis, in doubtful cases of encysted dropsy of the ovaries, and the solid tumours attended with ascites. Whilst the distinguishing this ascites from encysted dropsy, especially when the latter is attended with some cysts containing a gelatinous or semi-solid matter, is difficult, it is at the same time, he remarks, in a practical point of view, of great importance, in so far as, whilst the general rule in practice, not to interfere with any encysted dropsy, unless in cases of extreme urgency, ought to be absolute in those cases where there is a mixture of cysts of gelatinous or semi-solid matter with cysts of fluid, the fluid of ascites, depending upon enlargement of the ovary, may be removed repeatedly with comparatively little danger, or may be kept under by the judicious use of medicines.

The non-malignant solid enlargement or tumour of the ovary, and which sometime attains a very great size, is, generally speaking, of the same character as the fibrous tumour of the uterus, and unless improperly interfered with, may exist for many years, without giving more disturbance than is occasioned by its bulk. The malignant disease is similar to that met with in the mamma, and sometimes is of the hard form; in other cases it presents the characters of soft scirrhus, or encephaloid disease. The non-malignant disease is not attended with pain, the malignant one is so generally, but not always. The latter is almost invariably attended with much constitutional disturbance; it is much more rapid in its course; and, whilst it indicates almost its nature by this quickness in its fatal pace, it frequently still further demonstrates itself by attacking the mammae, the uterus, or the pylorus.

The fibrous and the scirrhus tumours, when felt through the abdominal wall, are smooth or rough, or knobbed or tuberoso, on the surface; and no diagnosis of the two diseases can be made by this means; but the semi-solid or gelatinous

cyst is almost always smooth, and invariably, to a practised hand, gives more a feeling of elasticity than solidity, whilst traces of fluid, perhaps faint, will be discovered in partial spots of the abdomen, viz., in some of the other cysts.

The semi-solid or gelatiniform and elastic cyst is always fixed, but the solid tumour is often movable, and, when attended with effusion, it moves about by slight pressure in the fluid.

After relating three cases of non-malignant and scirrhus tumours, Dr. Kilgour inquires "are there any accurate means of distinguishing solid ovarian disease with ascites, from encysted dropsy of the ovarium? But, first, how is encysted dropsy itself known from ascites? Cruveilhier, in his early and small pathological manual, says,—"*On n'a pas toujours de signes positifs pour distinguer l'hydropisie ascite de l'enkystée, lorsqu'on a fait la ponction on a été témoin des progrès de la maladie.*" But, in his later and more splendid work, he has got new light on this point, and putting the question,—"*by what signs can we establish a diagnostic betwixt these two diseases, a diagnostic not only interesting theoretically and as a perfecting of science, but in a practical view,*" he proceeds to furnish us with two: "1st, In ascites the liquid always occupies the most dependant parts, viz., the pelvis and lumbar region; whilst the small intestines, floating in the fluid, correspond to the umbilical region, according to the observation of Frank; and the arch of the colon and the stomach occupy the epigastrium. Percussion, therefore, with the fingers on the abdomen, or, better still, the ivory plate of Piorry, elicits a dull sound over the hypogastric and lumbar regions, changing somewhat its character, according as, in different positions of the body, the fluid is made to change its place, but a clear one in the umbilical and epigastric regions; whereas, in encysted dropsy, the cyst develops itself anteriorly to the intestines which it pushes back; so that, in no possible case, and in no degree, can the tympanitic sound exist. This observation belongs to M. Rostan. Add to this, that the fluctuation is more decided in ascites than in encysted ovarian dropsy; that, according to the researches of M. Piorry, the sound over the cyst is much more dull, and that by means of percussion, mediate or immediate, the percussion may be carried to the point of distinguishing, in cases of complication, what belongs to the cyst, from what belongs to the ascites. 2d, In ascites we find the neck of the uterus in its proper place; in encysted ovarian dropsy the uterus is not forced downwards, as is generally said, but, on the contrary, is drawn upwards, so that it is impossible to reach it; whilst, also, in this latter case, the pelvic cavity is filled by a portion of the abdominal tumour. In addition to these positive signs, it may be stated, that encysted dropsy often exists with a good state of general health, whereas the reverse is the case in ascites; and that the latter has generally anasarca of the lower extremities along with it, whilst the former has not." (*V<sup>e</sup>. Liv., pl. iii. p. 3.*)

Such are the pathognomonic signs according to Cruveilhier; and without yielding the exclusive merit of the first to Rostan, it must be granted it is one which will very seldom fail. There is just one case, and only one, where it may mislead, and that is, where chronic disease of the peritoneal coat of the intestines has been followed by matting together of these, and adhesion to the posterior part of the abdomen, in which case they do not float on the surface of the fluid, so often effused ultimately in such cases. In regard also to the distinctness of the fluctuation in the two diseases, the observer will find that in ascites the fluctuation is distinct from one lumbar region to the other, whereas it is not felt in ovarian dropsy at this part, more especially when the patient stands erect, but otherwise, in many cases of the encysted dropsy, the fluctuation is fully as distinct as in ascites. In those cases of complication of encysted ovarian dropsy with ascites, to which it is presumed the researches of Piorry refer, it is not so much by percussion, as by manipulation, that the diagnosis is made out; for by pushing our fingers through, as it were, the fluid of ascites—and which in these cases exists only in a moderately thin layer anteriorly—we can distinguish the more confined fluid of the cyst. And, amongst the positive signs, Cruveilhier has omitted one of no little value—the form of the swelling (to ascertain which,

accurately, it is necessary to observe the abdomen of the patient both recumbent and erect), for in most cases of the single large cyst, (and that is almost the only case where any difficulty exists), a peculiarly rounded appearance anteriorly may be observed, and a practised eye will also detect more or less of a sulcus between the swelling and epigastric region. The position of the uterus is not to be relied on; but the good state of the general health, and the absence of anasarca are worth observing, for in ovarian disease the latter seldom occurs. In the most extensive disease of that kind I ever witnessed, where the abdomen, measuring seven feet in circumference, reached almost to the ground, and where, from the elevation, at the same time, of the chest, and in which the neck had almost disappeared, the figure of the poor woman was like that of a tortoise laid on its back; there was no anasarca of the legs.

But there is another sign which is only furnished by paracentesis—the character, physical and chemical, of the fluid drawn off. In most cases of encysted ovarian dropsy the fluid is thicker than serum, flowing through the canula of the consistence of train oil, of a greenish or dark colour, and of a saponaceous feel. Sometimes it is grumous, like drained honey, or like jelly; or it assumes these characters as the sac becomes emptied. Nitric acid added to it produces a thick coagulum, and so also does boiling. When these characters are present there can be no doubt as to the nature of the dropsy. But have we never a fluid exactly similar to that of ascites in the unilocular or single cysted ovarian dropsy? It would be held as heterodox to affirm that we have not; and the induction that those numerous cases which we find on record of successive tapplings of what were believed to be cysts, were in reality collections in the peritoneal cavity, would be held decided heresy; but, nevertheless, the proofs that such clear serum was from a cyst, are by no means so numerous as the assertions to that effect. Of the case of that famous Dame Mary Page, who thought it necessary to have recorded on her tombstone, that “In 67 months she had been tapped 66 times, and had taken away 240 gallons of water without ever repining at her loss or fearing the operation,” we may reasonably entertain a doubt, seeing that her classical and accomplished medical attendant, Dr. Mead, was only of *opinion* it was ovarian.\* Dr. Barlow gives a case in the *Transactions of the Provincial Medical and Surgical Association*, vol. iv. p. 399, in which, at five different tapplings, “a pale straw-coloured serum, such as is usual in ascites,” was drawn off, and which, at the sixth operation, was found to be purulent. It was ascertained by dissection that there was one large cyst. In Mr. Ford’s case, (*Med. Communications*, vol. ii.) where the patient was tapped 41 times, the fluid was also ascertained to have been secreted from one cyst, but the character of the fluid is not given. It will be found that in almost every encysted dropsy, the fluid, if clear at the first operation, and like that of ascites, becomes, after a few repetitions of the operation, purulent or thick. The chemical characters of morbid fluids in the human body do not as yet seem to have much engaged the attention of the profession. According to Dr. Marcet, there are 33 parts in the 1000. of solid matter in the fluid of ascites, and 80 in the 1000 of that of hydrocele, a difference which it is difficult to account for; but these must not be taken as absolute, for I have the notes of a case of ascites which occurred in the ward of my colleague Dr. Dyce, where no albumen could be detected in the fluid by the usual tests. There is little doubt, it will be found, that the fluid of encysted dropsy is always much more loaded with albumen than that of ascites, and this may be made a means of diagnosis of the two diseases.

How, then, are we to distinguish solid ovarian tumour with ascites, from encysted dropsy? It is not simply because we can feel a solid tumour in the seat of one or both ovaries, and fluid in the belly, that we are to conclude the fluid is in the peritoneal sac; for we very frequently find in the multilocular ovarian disease, that some of the cysts are filled of semi-solid or fungoid substance, whilst the others are filled of fluid. There is a sign, which was very observable in both of the cases already given, and which may serve the purpose

\* “In ipsis ovarum conceptaculis, quæ recentiores medici *ovaria* appellant, primum collectas fuisse opinor.” *Monita*, p. 150.



—the *mobility* of the tumour, for it moves up and down in the fluid, striking the finger exactly like the child in utero, in what is termed the *ballotement*. In consequence, also, of its moving through the fluid, it presents different parts of its surface to the hand of the examiner, and he is led thereby to the idea, that there are several tumours—an error which is only corrected by examination after the fluid has been drawn off. In the encysted dropsy, the solid tumour, if there be any present, is fixed; it is often attached to the adjacent parts; but, whether this be so or not, it is *outside* the cyst or bag of water, or forms part of the *wall of the cyst*, and, in either case, it cannot move in the fluid. Of course this sign is only available when the peritoneum is fully distended with serum. In addition, we have in such a case, the tympanitic sound of the abdomen, and the broad belly, with bulging out flanks; but we must not expect these to be so decided as in ascites from other causes, for there will be dulness over the immediate seat of the tumours, and their presence will also give somewhat of a prominence to the abdomen.

The following case may be given, as an example of a diagnosis of a case of unilocular dropsy, made up from the presence or absence of certain of the preceding signs.

CASE 4. Margaret Langland, aged 58, was admitted into Dr. Dyce's ward, with the view of being tapped for what had been believed to be ascites. The belly was much and uniformly distended, and the fluctuation was very distinct. No tumour or hardness could be felt in any part. She stated, that before the appearance of the swelling, which began about twelve months before, she had pain in the right side, and in the region of the liver. Her health was rather impaired. Nevertheless, from the absence of any tympanitic sound on percussion anteriorly, and from the flanks not being distended when she lay on her back, the case was held to be ovarian; and the discharge of a thick, soapy, green-coloured fluid, and that followed by a grumous fluid, confirmed this view. She sank in three days after the operation.

Examination of the body discovered a large cyst lying between the intestines and the anterior wall of the abdomen, to which it adhered. It was connected with the right ovary. The Fallopian tube and its fimbriated end were very distinct, and about nine inches in length; whilst in the usual situation of the ovary, there was a mass of the size and thickness of the hand, composed of cysts of the size of large nuts, the mass forming part of the wall of the large cyst. The wall of the abdomen where the cyst adhered, was so thin, that when the operation was performed, the lancet used in making the cut through the integuments, went into the sac. It was evident it would have soon burst externally. It is unnecessary to detail the morbid appearances which were the result of the inflammation that caused death.

In concluding this paper, the following table will probably be held as correcting a remark in Boivin and Duges, to this effect:—"The disease (ovarian) is seated first on one side,—generally, it is said, on the left," (p. 466;) for it will not be regarded as merely accidental, that in 25 cases which I have seen and examined, 18 should have commenced in the right side, and that only 4 should belong to the left ovary, according to the woman's statement, or examination after death. Perhaps some one will examine the numerous cases on record of this disease, and confirm, or refute, by the aid of numbers, this opinion, founded on so limited an observation as 25 cases; unless the observation of Cruveilhier,—"quant à la circonstance du développement du kyste sur l'un des côtés de l'abdomen, qui est généralement indiquée dans les auteurs, elle est illusoire, elle est purement théorique,"—be a damper to such an investigation. But this remark of the learned Professor is altogether at variance with experience, for, in most cases, the woman is aware of the swelling having commenced in one side, though the most careful manipulation by the medical attendant will not, in many instances, enable him to say which ovary is the seat of the disease.

In the table, I have not entered the cases in the order of time in which I saw them, as in my note-book, but I have put those that were tapped first, to show the result, and the malignant and non-malignant solid tumours last, to exhibit the difference in their fatal progress.

TABLE.

| Name.               | Age. | Single or Married. | Number of Children. | Ovary first affected. | Disease first observed. | Condition of Swelling.                            | Number Tappings. | Character of fluid. | Remarks.                 |
|---------------------|------|--------------------|---------------------|-----------------------|-------------------------|---------------------------------------------------|------------------|---------------------|--------------------------|
| Eliza Henry.        | 30   | S.                 | None.               | Right.                | 1 year.                 | Elastic, large, fluctuation very distinct.        | 1                | Thick.              | Died from operation.     |
| Mrs. Knowles.       | 36   | M.                 | One.                | Left.                 | 3 months.               | One cyst, first observed after parturition.       | 1                | Ditto.              | Alive, disease recurred. |
| Margaret Bain.      | 29   | M.                 | None.               | Unknown.              | 5 years.                | Fluctuation, partly gelatinous.                   | 1                | Ditto.              | Died from operation.     |
| Janet Cook.         | 43   | M.                 | Several.            | Left.                 | 6 months.               | Ditto ditto.                                      | 1                | Ditto.              | Ditto.                   |
| Mrs. ———            | 29   | M.                 | Two.                | Right.                | 9 months.               | Ditto ditto.                                      | 3                | Ditto.              | Died.                    |
| Margaret Langland.  | 38   | S.                 | None.               | Ditto.                | 2 months.               | Fluctuation very distinct, no solid tumour.       | 1                | Ditto.              | Died from operation.     |
| Mrs. Ellis.         | 33   | M.                 | Nine.               | Ditto.                | 2 months.               | Ascites, solid tumours, (malignant.)              | 7                | Serum.              | Dead.                    |
| Mary Nicol.         | 26   | S.                 | One.                | Ditto.                | 3 years.                | Ditto ditto (non-malignant.)                      | 43               | Ditto.              | Alive.                   |
| Margaret Gray.      | 37   | M.                 | None.               | Ditto.                | 7 months.               | Solid, smooth, slight ascites.                    | .                | .                   | Not known.               |
| Mary Hector.        | 28   | S.                 | Ditto.              | Left.                 | 1½ years.               | Firm, elastic, smooth, no fluctuation.            | .                | .                   | Alive.                   |
| Mrs. Wright.        | 49   | M.                 | Twelve.             | Right.                | Ditto.                  | Cysts size of orange, soft, fluctuating.          | .                | .                   | Not known.               |
| Catharine McDonald. | 29   | S.                 | None.               | Unknown.              | 3 years.                | Large, firm, fluctuation, (health very good.)     | .                | .                   | Alive.                   |
| Mrs. Mathieson.     | 50   | M.                 | Ditto.              | Right.                | 3 years.                | One part firm and elastic, in others fluctuation. | .                | .                   | Died from crysipelas.    |
| Ann Cumming.        | 40   | M.                 | Ditto.              | Ditto.                | 4 months.               | One cyst, no hardness.                            | .                | .                   | Not known.               |
| Jean Fraser.        | 19   | S.                 | Ditto.              | Both.                 | .                       | Several small cysts found only on dissection.     | .                | .                   | Died by suicide.         |
| Barbara Joss.       | .    | M.                 | Several.            | Right.                | .                       | Firm, elastic, large.                             | .                | .                   | Not known.               |
| Margaret Knowles.   | 38   | S.                 | None.               | Ditto.                | 6 months.               | Solid, hard, movable, painful, (malignant.)       | .                | .                   | Died.                    |
| Widow Knowles.      | 82   | M.                 | Several.            | Ditto.                | 1 year.                 | Solid, irregular, movable, painful.               | .                | .                   | Ditto.                   |
| Judy Carley.        | 48   | S.                 | None.               | Ditto.                | 4 months.               | Solid, irregular, very painful, (malignant.)      | .                | .                   | Ditto.                   |
| Isabel Bruce.       | 50   | S.                 | Ditto.              | Ditto.                | 5 years.                | Solid, very large, no fluctuation.                | .                | .                   | Alive.                   |
| Mrs. ———            | 38   | M.                 | Ditto.              | Ditto.                | 9 years.                | Ditto, smooth, large, ditto.                      | .                | .                   | Ditto.                   |
| Mrs. ———            | 36   | M.                 | .                   | Ditto.                | 3 years.                | Ditto, irregular, no pain, ditto.                 | .                | .                   | Ditto.                   |
| Mrs. Cumming.       | 36   | M.                 | One.                | Ditto.                | 5 years.                | Ditto ditto ditto ditto.                          | .                | .                   | Ditto.                   |
| Mrs. ———            | 66   | M.                 | None.               | Left.                 | 22 years.               | Ditto, smooth, ditto ditto.                       | .                | .                   | Ditto.                   |
| Widow Ingram.       | 74   | M.                 | Ditto.              | Right.                | 25 years.               | Ditto ditto ditto ditto.                          | .                | .                   | Died from dysentery.     |

43. *Large Calculus voided by Urethra*.—Mr. Cook relates in the *Lancet* (June 3, 1843) a case in which a calculus of an oval shape, one inch long, one inch and a half in circumference at its largest part, and weighing forty grains and a half, was passed through the urethra of a man.

## OPHTHALMOLOGY.

44. *Capsular Cataract from injury—Absorption of the Capsule*. By JOHN WALKER, Esq., Asst. Surgeon to the Eye Hospital, Manchester.—Mrs. H., a married female, about thirty years of age, had lost the vision of her left eye in consequence of a blow received nine years before. A white pearly opacity was seen to block up the pupil, which latter contracted and dilated with the utmost regularity. No change was observable in the condition of the iris or any other texture of the eye, and she could readily discern a light or any other shining object. The case appeared to be one of capsulo-lenticular cataract, and on the 22d of October last, at her request, I performed the posterior operation for solution, but, on endeavouring to break up the lens, I found that there was nothing but opaque capsule, which was very tough and parchment-like, the lens having evidently undergone absorption soon after the receipt of the injury before mentioned. I attempted to divide the capsule into fragments, in which I partially succeeded, and then pushed the entire body out of the axis of vision, into which, however, it very speedily returned. The moistened extract of belladonna was then applied over the orbit, and the usual antiphlogistic treatment enjoined.

The case went on favourably for the first ten days, but little inflammation having resulted, and, there being an aperture in the capsule, she had now regained some power of vision. At the expiration of this term, however, she began to complain of severe pain in the eye, and, on visiting her, I found that a rather sharp attack of inflammation had come on, and I was also surprised to find that the entire of the opaque capsule had come forward into the anterior chamber, lying irregularly across and nearly filling it, and that the pupil had contracted upon it. My first impression was that I ought to puncture the cornea and evacuate the irritating body, but the patient was exceedingly averse to any further operation, and had been very restless and unmanageable at the first, so that I decided on waiting to see if the opaque body would be acted upon by the aqueous humour and removed by the absorbents. I accordingly contented myself with the employment of leeches, blisters, and the ordinary remedies, with a view of diminishing the inflammatory action as much as possible in the mean time. These, however, did not seem of much avail, and the pupil remained closely contracted, notwithstanding the continued use of the belladonna, until a considerable portion of the capsule had disappeared, when the inflammatory symptoms gradually subsided and the pupil expanded. It was about two months from the time of the capsule passing into the anterior chamber before it had become entirely absorbed, and I carefully observed its gradual disappearance under the action of the absorbents. I may here observe that no mercurial preparation was given at any time during the progress of the case. The inflammatory action has now entirely subsided, leaving the pupil slightly contracted, but clear, and possessing the power of contraction and expansion under the varying influence of light. There is no other morbid change visible, except a slight central opacity of the cornea, the consequence of the inflammatory action having extended to that texture, and she is now regaining her vision. Here, then, was an instance in which the removal of a large portion, if not the whole, of the opaque capsule was indisputably removed by the process of absorption—a fact, the possibility of which has been disputed by most writers on ophthalmic surgery.—*Prov. Med. Journ.*, Feb. 15, 1843.

45. *Black Cataract*. By M. MAGNE.—A female, above sixty years of age, had laboured under some affection of the eyes, for which she had consulted a great



number of oculists. She was quite blind; the eyeballs were prominent; the sclerótica appeared to be thin; the iris well shaped, but perfectly immovable; bottom of the pupil dark, as in the healthy state.

From these and other symptoms the disease was supposed to be amaurosis; but a second examination of the patient was made in a darkened chamber, and with the aid of a candle, as recommended by M. Sanson. The deep-seated images were absent, and M. Magne accordingly declared the case to be one of black cataract, with adhesion of the iris. The diagnosis having been confirmed by M. Cruveilhier, the lens on the right side was depressed, on the 25th of March, 1843. The adhesions of the iris were numerous; but as soon as the capsule was lacerated, the dark colour of the lens became evident, and, on depressing it, several black fragments were detached.

On the second day after the operation the pupil appeared to be less contracted, the base being quite dark, but on the following day it was closed by a white substance. M. Cruveilhier regarded this as the lens, which had come forwards, after having lost its dark colour in the vitreous humour. The operation was unsuccessful, and was, therefore, repeated in a fortnight; but the first touch of the needle showed that the body supposed to be the lens was, in reality, the capsule, which was extremely soft and elastic. A few shreds were removed with much difficulty, and the patient recovered but a very imperfect power of vision.—*Prov. Med. Journ.*, Feb. 18, 1843.

46. *Horny excrescences on the Eyelids.*—Dr. F. A. AMMON has twice observed horny growths on the eyelids. The cases were as follows:—A stocking-maker, forty years old, healthy and strong, had a horny growth, three lines large, on the right upper eyelid, a few lines from its ciliary margin. It had grown gradually, and turned downwards. The patient believed that it came from a wart; and he came to Dr. A. only because he had lately often struck the growth, and given himself pain. Dr. A. cut it off with scissors, going rather deep into the healthy skin, and the wound bled considerably for some time. When it had ceased bleeding it was touched with nitrate of silver, and in twelve days it was completely healed. Two years have elapsed, and the disease has not reappeared.

The most accurate examination detected nothing more than that the horn was a dark cartilage-like substance, uniform from its apex, and consisting of several close lamellæ. Where it was connected with the skin, there was seen an intermediate substance like a thickened cutaneous gland.

In the second case, Dr. A. observed the disease in a woman fifty years old, who had ceased menstruating for some time, and had had warts on many parts of her body successively, which, however, were always removed by the remedies she applied. From a wart on the left upper eyelid, a horny excrescence had gradually formed, which was upwards of four lines high, inclined to one side, and smaller at its apex than at its base. It gave no pain, but it often itched, and when the woman scratched it, it bled. Dr. A. extirpated it with scissors, and it has not been reproduced.

As far as Dr. A. knows, among the cases of horny excrescences described by authors, there is none of a *cornu cutaneum* of the eyelids.—*F. A. Ammon's Monatsschrift*, July 1840.

47. *Amaurosis caused by Distress of Mind and cured by Fright.*—A very remarkable case of this character has been recorded by M. ARNAL in the *Gazette des Hôpitaux*, June 16, 1842. The subject of it was a man, at present 36 years of age, who had been myopic since childhood. This near-sightedness he stated had come on after gazing for a considerable time at the bright sun. From this period he experienced no other inconvenience except momentary cerebral congestion, until two years ago, when having learned suddenly the loss of his whole fortune, he became deeply distressed, his sight was affected, and he became quite blind. After some hours he perceived numerous sparks and flashes of light before his eyes, and he had violent headache; but these symptoms soon ceased, and the patient remained perfectly blind.

Antiphlogistics and revulsives were tried without benefit. The unfortunate patient, deprived at once of sight and fortune, and not receiving relief from the best surgical advice in Paris, had recourse to charlatans, and among others to the homœopaths who promised him a speedy cure, but failed after many months' treatment to perform their promises.

The patient finally had become resigned to his hard fate, when one day his child, four years of age, had a violent fall. The unfortunate father who was near him, and heard him fall, called to him, but received no answer. Groping about for the child, he found him on the pavement without respiration, pulseless, and apparently lifeless. The father called loudly for help, and when assistance came he was so overcome that he fainted. He remained in this situation for about twenty minutes, and great was his surprise on reviving to find that he was no longer blind. Objects indeed appeared as if enveloped in a thick mist, but he saw them, it was no illusion, for his sight gradually became clearer, and in a short time he was able to pursue his ordinary occupations.

His right eye, however, remained feeble, at times he saw flashes and sparks of different colours, rendering the sight of that eye imperfect, when a new misfortune led to the complete recovery of his sight. He was attacked with double pneumonia, accompanied with typhoid symptoms. The disease was protracted and painful; nevertheless it was cured by antiphlogistics, tartar emetic, revulsives, &c.; and finally, when convalescence was established, he had the satisfaction of finding that his sight was as perfect as at any period of his life.

## MIDWIFERY.

48. *Remarks on Forceps Cases.* By ROBERT LEE, M. D.,—"In more than twenty cases of protracted labour, where it had been proposed to deliver with the forceps, the histories of which it would be tedious to relate, I recommended delay, and they all terminated favourably without artificial assistance.

"Five of the mothers whose cases have now been related, died from puerperal convulsions, and four from the rash and inconsiderate use of the forceps. Seven had the perinæum more or less injured, one the recto-vaginal septum torn, five were left with cicatrices of the vagina after sloughing, and one with an incurable vesico-vaginal fistula. In none did any benefit result from the instrument before the greater part of the head of the child had passed through the brim of the pelvis, and the orifice of the uterus was fully dilated. In one case only was the employment of the forceps advantageous, where the blades were applied and locked with great difficulty, and great force required to extract the head of the child. Seventeen of the children were born alive and lived.

"In protracted labours, when the head has made no sensible advance for hours, and becomes compressed, the scalp puffy and swollen, the vagina dry, hot, and tender, the discharges offensive, and when the bladder cannot be emptied without the catheter, it is dangerous to trust longer to the natural efforts. If along with these symptoms, there is tenderness of the abdomen, fever, incoherence, restlessness, and exhaustion, delaying long to deliver is invariably followed by the most injurious consequences, as the cases related in the next report sufficiently prove."—*Clinical Midwifery.*

49. *Presentation of the Arm in nine consecutive labours in the same woman.*—M GERY relates an example of this in the *Révue Médicale* for Nov. 1842.

## MEDICAL JURISPRUDENCE AND TOXICOLOGY.

50. *Is the Urinary secretion suppressed in acute and subacute poisoning by Arsenic?*—According to the experiments of Orfila, it is not, whilst Flandin and

Danger came to an opposite result. In order to determine this important question, DELAFOND, Professor of Pathology and Legal Medicine at the Veterinary School of Alfort, performed several experiments, which he detailed in a memoir before the Royal Academy of Medicine, and the result of which are thus given by Ollivier, (D'Angers), Chevallier and Le Canu, Commissioners to examine the memoir.

M. Delafond commenced, by ascertaining the urine secreted in a given time by horses and dogs, in a healthy state, after being deprived of food and drink during forty-eight hours. The bladders in each were first artificially evacuated, and then again at the expiration of forty-eight hours. The quantity of urine obtained from horses at the latter period, was 5 litres 664 millilitres, or 118 millilitres in one hour; and of dogs, 1 litre 152 millilitres in forty-eight hours, or 024 millilitres in an hour.

Preparatory to the second series of experiments, M. Delafond took it for granted that the following facts had been already established by the observations of Bouley and Orfila. 1. That sixty grammes (two ounces) of arsenic, in powder, introduced into the stomach of a horse would cause its death in a space of time not less than forty-six hours, nor greater than one hundred and forty-four hours. 2. That arsenic in powder introduced into the stomach of a dog, whose œsophagus is tied immediately after, to the amount of 20 or 30 centigrammes, will destroy the animal in from fourteen to twenty-seven hours; and that death will happen much more quickly if the poison be introduced in a state of solution.

Recollecting also, that arsenic is most commonly taken in a partly dissolved state, and partly suspended in various aliments or drinks, he administered it as follows. To horses, a dose of 30 grammes, mixed in three litres of water, in order to induce acute poisoning; and a dose of 60 grammes in six litres of water, to induce the subacute condition, while to dogs, he gave 5 grammes with water. The bladder of each of these animals were evacuated immediately previous to the exhibition of the poison. They also had not been allowed any drink for twenty hours before this time.

Six horses experimented upon, died in one hour, one and a half hours, eight hours, twenty-one, twenty-nine, and fifty-one hours; and the urine obtained, varied from three litres to two centilitres. The dogs died at a mean period of twelve hours, and the quantity of urine secreted during that time, varied from three centilitres to one decilitre. In both, the urine contained a notable portion of arsenic, and which began to be deposited as soon as the constitutional symptoms of the absorption of the arsenic became manifest.

The author infers from these results, that the urinary secretion is not suppressed during acute poisoning from arsenic. There is equally no doubt, but that it is notably diminished. If the figures 100 be taken to represent the quantity secreted in the healthy state, the present amount will be 29 in the poisoned horse, and 17 in the poisoned dog. M. Delafond repeated some of these experiments before the commissioners. To a horse who had fasted fifty hours, and whose bladder had been thoroughly emptied, 40 grammes of arsenic in five litres of water were injected into the stomach by means of a tube introduced into the œsophagus. The tube was then withdrawn and the œsophagus tied. In four hours, the animal was dead, without having urinated. The bladder contained four decilitres of urine, decidedly arsenical.

The same experiment was repeated on a horse that had fasted sixty hours. It died in two hours and twenty minutes, and the bladder contained only two decilitres of urine equally arsenical. The diminution here appears to correspond to the shorter life of the animal.

To a bitch, who had been denied food and drink for fifteen hours, and whose bladder was perfectly emptied, five grammes of arsenic in a litre of water, were injected into the stomach, and the œsophagus was tied. Death ensued in three hours and a few minutes. The mucous membrane of the bladder was of an intense red, and it contained a decilitre and a half of yellowish red urine, in which arsenic was readily detected. In another dog, death ensued an hour and a half after taking 2½ grammes of arsenic suspended in half a litre of water. The bladder contained two decilitres of arsenical urine.



The experiments also enabled the commissioners to verify a curious observation of M. Delafond, viz., the almost instantaneous production of false membranes, sometimes so compact, that they may be removed in one piece, formed like a hollow cylinder, from the internal surface of the small intestines in horses poisoned by arsenic. This membranous concretion always occurs in less than two hours, and what is remarkable, according to M. Delafond, neither corrosive sublimate, tartar emetic, nitrate of silver, muriate of antimony, or sulphate of copper produce any thing resembling it.

It is evident from the facts ascertained by M. Delafond, that the secretion of urine continues, although in a less degree than in health; and it must also be recollected, that the previous state of fasting is unfavourable to it.—*Bulletin de l'Académie Royale de Médecine*, vol. 8, p. 810. T. R. B.

51. *Death from eating Phosphorus*.—The following account is taken from a newspaper published at the city of Rochester, in this state, June 1843. The infant daughter of Mr. Newman ate some phosphorus on Friday, at 12 o'clock. The mother immediately gave it an emetic, after which it remained easy. It is, however, stated, that the smoke of the phosphorus escaped freely from the bowels during Saturday. It continued apparently well until Sunday morning, when it was seized with terrific pains, which continued until she died, at 6 P. M.

On dissection, extensive burns were discovered throughout the whole course of the intestines. It is added, that the proper antidotes were freely given. A more detailed account of this case would be acceptable. T. R. B.

52. *Death from Lucifer Matches*.—Emma M'Adam, a child three and a half years old, poisoned herself by sucking the ends of some French Congreve matches. It was stated at the inquest, that they were composed of oxymuriate of potash and phosphorus.—*London Atlas Newspaper*, June 20, 1840.

A girl aged six months, at Lancaster, sucked the end of some lucifer matches. About eight hours after, violent sickness came on, which continued a night and a day; the matter vomited was luminous, and as well as the breath, emitted a strong phosphorescent odour. After the cessation of the sickness, the child lay in a drowsy, comatose state, until within a few hours of its death, when it was seized with violent convulsions and died in one of the paroxysms. This occurred on the fifth day. Its bowels during the whole time had been sluggish, requiring enemas constantly in order to cause evacuations.

On dissection, twelve hours after death, a large injected patch was found near the pyloric orifice, and the mucous membrane was thickened and softened. The duodenum and jejunum were healthy, but along the whole course of the ileum, there were several oblong patches of thickened, softened, and in many places ulcerated mucous membrane. The colon and rectum were healthy; the liver pale and somewhat indurated; the lungs and pleura healthy. Mr. Lafarque in *Provincial Medical Journal*, quoted in *Lond. & Edin. Monthly Journ. Med. Sci.*, April 1843. T. R. B.

53. *Poisoning by Binoxalate of Potash*.—In the number of this journal for July 1841, a case is given in which the patient recovered from its effects. In the present instance, the result was fatal. A lady recently confined, was ordered one ounce of the bitartrate of potash, but the apothecary sent by mistake the same quantity of the binoxalate, divided into two doses. One dose was immediately swallowed, but had scarcely reached the stomach, when she was seized with excruciating pains, followed by violent convulsions, and death ensued within ten minutes after the swallowing of the draught.

On opening the body, twenty-four hours after death, putrefaction was found to have commenced on all the lower parts of the abdomen. The mouth, pharynx, and œsophagus were in their natural state. The orifices of the stomach were hermetically closed, in consequence of the contraction of the circular fibres which surround them. The mucous membrane of the stomach, duodenum and

small intestines, all presented the appearance of violent inflammation. The blood was fluid in the heart and great blood-vessels.

In another case, a female wishing to wean her child, took for three successive mornings the remedy prescribed. It consisted, as was afterwards ascertained, of oxalate of potash, and each day's prescription held one drachm and sixteen grains of the salt. It induced violent vomiting after every dose, bloody and blackish, with extreme pain. Death ensued within an hour after taking it on the third day. The matters vomited were examined, and found to contain a large proportion of salt of sorrel, as forty grains of oxalic acid were extracted from them.

On the other hand, a female swallowed an ounce of the binoxalate, at a single dose, dissolved in water. She experienced serious symptoms only at the end of an hour and a half, and the case was successfully treated by giving first a mixture of chalk and afterwards antispasmodics.—*Edin. Med. & Surg. Journ.*, Oct. 1842. *Annales D'Hygiene. Lond. & Edin. Monthly. Journ. Med. Sci.*, Oct. 1842.

It is asked by one of these journalists, why this remarkable difference in the last case? We need more details to form a decided opinion, but it may be conjectured that the puerperal state aided materially in hastening the absorption of the poison. This opinion is strengthened by the fact of forty grains of sulphate of potash given as a purgative to a female recently confined, causing death in two and a half hours, after extreme suffering. Dr. Bayard was required to make a chemical analysis of the substances contained in the stomach, but could detect nothing beyond the salt in question.—*Annales D'Hygiene*, April 1842. T. R. B.

54. *Poisoning by a Cerate prepared from Wax Candles that contained Arsenic.* By Dr. ERRARD.—An individual convalescent from pneumonia, had two blisters applied, one to each arm. The wounds were dressed with ointment. Dr. Errard was sent for on the next day; he found the arms painful, the tongue red, dry, and cracked, and the pulse small, irregular and frequent. There was urgent thirst, pains in the abdomen, without purging, and involuntary contractions of the muscles of the lower extremities and of the back, with headache. Death ensued in the evening. Dr. E. suspected poisoning, but as the relatives assured him that nothing hurtful had been taken, no further examination was made.

Eight days after, a blister was applied to the thigh of a young woman, for headache arising from suppressed menstruation. It was afterwards dressed with cerate, which caused such pain, that the dressing was removed. Dr. Errard on visiting her, found that she had intolerable thirst, with nausea and pain in the stomach. The tongue was red, the wound was inflamed and a little bloody, and there were twitches in the limbs. She recovered with proper remedies after a few days.

Dr. Errard now recollected that a cerate applied to the nose of a child, some short time previous, had aggravated the inflammation, and on inquiry, he ascertained, that in all the three cases, the cerate had been obtained from the same shop, and that it was made from the ends of wax candles. No chemical examination was had, but it is well known, that in every village, the ends of candles used for lighting churches are frequently thus employed, and further, that they are made from lard whitened and hardened by arsenious acid.—*Gaz. Med. de Paris*. T. R. B.

55. *On the Composition of Pure and Vitiated Atmospheres.* By R. D. THOMSON, M. D., Glasgow. (Proceedings of the Glasgow Philosophical Society.)

DUMAS has lately published some experiments made at Copenhagen, on air taken from the surface of the ocean. Its constituents were found to be the same as those already obtained from every kind and description of place, under ordinary circumstances.

The trials of Leblanc (see American Journal of Medical Sciences, New Series, Vol. 5, p. 495) on vitiated atmosphere, are of great interest. The quantity of carbonic acid in the atmosphere in its pure state has been shown by the Saussures to vary from three to six parts in 10,000. But Leblanc found that the air

in one of the wards of the hospital, "La Pitie," which contained fifty-four patients, afforded five times more of carbonic acid than in healthy air. So also in one of the dormitories of the Salpetriere, it reached to nearly fourteen times more. In Dumas' class room, after a lecture of an hour and a half, where nine hundred persons were present, the carbonic acid amounted to one per cent., and the same quantity of oxygen had disappeared. From other experiments, he considers this the maximum quantity for safety, and strongly recommends a better ventilation, when so much carbonic acid is present. This result agrees with experiments made in Great Britain. When the atmosphere is deteriorated by burning charcoal, he has seen death produced, when three per cent. of carbonic acid was present in the atmosphere. In all such cases of death from stoves, he has found carbonic oxide in the air, and he attributes a deleterious effect to the agency of this gas. He has observed one per cent. of this gas to destroy an animal in two minutes, which is contrary to the statement of M. Nysten. This observation explains many of the inconsistencies which appeared some years ago in the evidence of some London chemists, respecting the influence of Joyce's stoves. It is quite obvious that their structure was dangerous. Leblanc found that a candle was extinguished in air containing four and a half, or six per cent. of carbonic acid. In such an atmosphere, life may be kept up for some time, but respiration is oppressive, and the animal is affected with very great uneasiness. Air expired from the lungs contains about four per cent. of carbonic acid, thence this atmosphere is noxious. Even three per cent. in the atmosphere killed birds, and yet we have seen statements which affirmed that upwards of three per cent. had been detected in the London theatres. All these facts are pregnant with importance in reference to health. Our miners may not be suffocated by fire damp explosions, but we should remember that their constitutions may be poisoned by the respiration of tainted atmospheres.—*Lancet*, February 4, 1843.

T. R. B.

56. *Death from violence to the testicles.*—It appears that among a certain class of people of Germany, in resorting to blows, it is customary to endeavour to grasp and squeeze these organs, and prize-fighters are accordingly accustomed to cover and protect these organs. A few years ago, at or near Peitz, a young man who had interposed between two combatants, was observed to fall to the ground, uttering a loud cry, and after having been seized with violent convulsions, in a few minutes, died. Every attempt to restore animation failed, and the cause of death remained in obscurity, until the next day, when on dissection, the scrotum and penis were seen strongly injected and much swollen, and on opening the abdomen, about four ounces of blood were found behind the peritoneum, upon the psoas muscle of either side, at the place where the spermatic cord passes through the abdominal ring, and the vas deferens leaves the spermatic vessels. At this point, the spermatic artery and vein were, if not torn, at least so distended and attenuated, that their coats appeared quite porous and cribriform, and had evidently given egress to the blood, which was discovered extravasated.—*Lancet*, March 11, 1843.

T. R. B.

57. *Test for Nitric Acid.*—(Berzelius' Annual Report.) M. BERTHEMOT has discovered an easy method of determining the presence of nitric acid. About a drachm of concentrated sulphuric acid, free from nitric acid, is to be placed in a glass, and to this is added a few drops of the liquid suspected to contain nitric acid. These are mixed together with a glass rod, and then with the moist extremity of the rod, a small piece of brucine is introduced into the mixture, and the whole stirred together; if nitric acid be present, a red colour will be immediately developed, which will afterwards pass to yellow: if there be no nitric acid, the brucine will not dissolve. By this means, the presence of the one ten-thousandth part of nitric acid may be detected in a liquid.—*Pharmaceutical Transactions*, March 1843.

T. R. B.

58. *Rupture of the Gall-bladder by blows.*—Dr. FLETCHER recently submitted



to the Pathological Society of Birmingham, a ruptured gall-bladder, taken from a patient, who after fighting, had been suddenly taken ill and peritonitis supervening, had died the second day. Mr. Hodgson attributed the rupture to the unhealthy state of the bladder, and said that in a similar case, a judicial inquiry was stopped, on its being found by experiment, that the gall-bladder of sheep would not burst when struck with great force by a butcher's cleaver, as they lay on a block attached to the liver and intestines. In both cases of ruptured gall-bladders, the deceased (we should mention) showed no marks of external violence in any part of the region of the gall-bladder.—*Medical Times*.

T. R. B.

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59. *Fresenius' Method of distinguishing between Arsenical and Antimonial Stains obtained by Marsh's Apparatus*.—(Wohler & Liebig's *Anal der Chemie*, for September 1842.)

Obtain marks as distinct as possible, in the usual way by the apparatus, and continue (changing occasionally the tubes) as long as spots are given. Then remove the vessel in which the gas is generated and substitute an apparatus for the generation of sulphuretted hydrogen. Pass a stream of this gas over the metallic spots, so slowly that the gas will just burn as it issues from the end of the tube, which is drawn out to a fine orifice.

When the gas is coming over, heat the tube by a spirit lamp, beginning at the outer end of the apparatus and passing the lamp slowly along in a direction contrary to the direction of the current of gas. The metal or metals present are thus converted into sulphurets. When this conversion is perfect, remove the sulph. hydrogen apparatus and replace it by one for the generation of hydrochloric acid gas, interposing a larger tube, filled with cotton, between this apparatus and the tube in which the spots are contained. Let the stream of this gas pass slowly along the tube, and the *sulphuret of antimony*, if any be present, will be dissolved instantaneously, if the spots be thin; and in a few seconds, if they be thicker—for this substance is very volatile in an atmosphere of hydrochloric acid.

On the other hand, the *sulphuret of arsenic*, if any be present, will be unaffected, and after all the antimony is removed, may be obtained by sealing the end of the tube, and filling it with aqua ammoniæ, by which it will be dissolved and can then be subjected to subsequent tests.—*Journal of the Franklin Institute*, 3d series, vol. 5, p. 420.

T. R. B.

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60. *Poisoning by Laurel Water*.—A female infant about eight months old, and who had experienced but little illness, was suffering from dentition, united with some intestinal disorder. The physician in attendance prescribed evacuants. The next day, finding irritation in the abdomen, he ordered three leeches to be applied, and prescribed a potion of which black cherry water was the principal constituent. The druggist to whom it was taken was not at home, and the shop boy not being able to find the bottle of black cherry water, thought he might substitute cherry laurel water. The child had scarcely taken half a teaspoonful of the mixture, than it shrieked, and threw her head back, and was convulsed. Death ensued in ten minutes after taking the mixture.

The poison was detected by its odour, and on examining the body, the brain and spinal marrow were found in a healthy state, but the mucous membrane of the stomach was injected towards the greater curvature. The duodenum was also high coloured, but the rest of the alimentary canal was in a healthy state. The fluid found in the stomach contained no trace of prussic acid, but that remaining in the phial had so large a quantity, that a rabbit and a puppy were each destroyed by a portion of it in a few minutes.—*Encyclographie des Sciences Medicales*, September 1842.—*London Medical Gazette*.

T. R. B.

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61. *Antidotes to Bromine*.—From certain experiments on animals, Dr. Glover has been induced to recommend starch in solution, and the whites of eggs. Mr. ALFRED SMEE has still later proposed ammonia, as an invaluable and effectual

antidote. Bromine (he observes) is one of the most deadly poisons with which we are acquainted. It lowers the circulation with great rapidity, and makes the action of the heart irregular, and unfortunately from its volatile nature, cannot well be used without considerable escape. Its hurtful action is instantly counteracted by the vapour of ammonia, for when the two meet, dense white fumes are produced, when bromine probably ceases to exert its baneful influence, or at any rate to a much less extent. I have known persons nearly poisoned by incautiously using this substance, and who have been quite at a loss to know how to proceed to neutralize its action. Those who have to deal with bromine, would do well to have an open vessel of the liquor ammonia by their side, which is in general quite sufficient to prevent any unpleasant consequences.—*London Medical Gazette*, April 1843.

T. R. B.

62. *On the antidote to Corrosive Sublimate proposed by M. Mialhes.* By M. ORFILA (*Journal de Chimie Médicale*).—I was anxious to ascertain the value of this substance, and accordingly prepared 100 grammes of the protosulphuret of iron, by decomposing protosulphate of iron with sulphuret of ammonia. The resulting mixture was put into a ground stoppered bottle which I kept filled with water, as the contact of the air would convert the protosulphuret into the persulphuret of iron. When the precipitation was completed, I decanted the liquor by means of a syphon into another ground stoppered bottle, and by repeated washings, freed it from every trace of sulphate of iron and sulphuret of ammonia. In this condition it was kept free from any contact of the air.

*Experiment 1.* The tenth part of the above was given to a middling sized dog, and immediately after 60 centigrammes of corrosive sublimate dissolved in one hundred grammes of water. The œsophagus was tied and kept so for eleven hours. With the exception of a few stools, the animal showed none of the symptoms of poisoning, and he continued well.

*Exp. 2.* I introduced by means of a gum elastic sound the same quantity of corrosive sublimate into the stomach of a dog, and immediately after injected the same quantity of the protosulphuret as in the last experiment. The œsophagus was kept tied during eleven hours. The animal did not appear incommoded, and the next day was perfectly well.

*Exp. 3.* The same experiment was repeated with this variation, that the antidote was given *ten minutes* after injecting the poison. The animal died at the end of four hours, with all the symptoms of poisoning, and particularly had numerous stools blackened by the sulphuret. On dissection the stomach was found inflamed and ecchymosed.

I infer from these, 1st, That the protosulphuret of iron is a perfect antidote, if it be *immediately* given in sufficient quantity after the poison has been swallowed. 2d, That it is inefficacious, if the giving of it be delayed from ten to fifteen minutes, as the poison will then have had sufficient time to produce its deleterious effects. 3d, That although I readily concede that it is a far more energetic and complete antidote than albumen, and ought in consequence to be preferred, if *immediately* attained, still it is no less true, that in most cases, we will obtain more advantage from the immediate exhibition of whites of eggs beaten through water, which *are always at hand*, than from delaying, as may frequently be the case, for the preparation of the other antidote.—*Encyclographie des Sciences Médicales*, January 1843.

T. R. B.

63. *A new Docimastic Test.*—"In the chapter on respiration we are told that the air remaining in the lungs consists for the most part of azote with some carbonic acid. A solution of deoxidized indigo on being injected assumed merely a greenish tint: a new *docimastic* test is thus furnished. The residual air is retained with great force in the lung: the whole being expelled only after boiling in water, whereupon a lung that has breathed sinks to the bottom of the vessel. A large amount of air is thus obtained. The specific gravity of the lung which has breathed is about that of ether, therefore it floats in alcohol and oil of turpentine. The lungs can be washed with chlorine water, nay even steeped in it for some

time, without losing their buoyancy."—*Review of Huenefeld on the co-operation of Chemistry and Medicine, in British and Foreign Medical Review, July 1843.*

T. R. B.

64. *Antidotes against the principal Mineral Poisons.*—At a meeting of the Royal Academy of Medicine of Paris, held March 21, 1843, Sandras and Bouchardat read a communication, entitled *Experiments on the Antidotes of corrosive sublimate, lead, copper, and arsenic.* Their conclusions only are quoted.

"We think we have proved that the following substances are antidotes to 1. *Corrosive sublimate*, viz. a mixture of powdered zinc and iron; iron reduced by hydrogen and the persulphuret of the moist hydrated peroxide of iron. 2. *Copper*; a mixture of powdered zinc and iron; iron reduced by hydrogen; *lefer porphyrisé*; zinc filings; and the persulphuret of the moist hydrated peroxide of iron. 3. *Lead*; the persulphuret of the moist hydrated peroxide of iron. *Arsenic*; the moist hydrated peroxide of iron; the dry hydrated peroxide of iron and the persulphuret of the moist hydrated peroxide of iron.

As this last named preparation acts equally on all the above poisons, it is above all proper to be administered in cases where the exact nature of the poison is not known."—*Bulletin De l'Academie Royale*, vol. 8, p. 807. T. R. B.

65. *Detection of Arsenic by Copper.* By HUGO REINSCH. (*Repertorium fur Pharmacie.*)—This method consists in *acidulating the arsenical fluids with muriatic acid and boiling them with metallic copper, which then becomes covered with a steel-gray crust of metallic arsenic.* So complete is the separation of arsenic by this method, that no traces of it can be detected in the residual fluid by means of Marsh's apparatus.

Besides the precious metals, (which are readily distinguished from arsenic, by their brilliancy,) bismuth and antimony are the only ones which are precipitated under similar circumstances, but bismuth is always deposited in the crystalline form, and antimony constantly covers the copper with a violet-coloured metallic pellicle in weak solutions, and a grayish-white one, in those more concentrated.

When acids such as the phosphoric, sulphuric or acetic, containing arsenic, are boiled with metallic copper, the latter preserves its brilliancy unchanged, nor is it affected by an aqueous solution of arsenious acid, but as soon as a few drops of concentrated muriatic acid are allowed to fall on the copper, whilst the fluid is still warm, it is instantly covered with the characteristic steel-gray crust of metallic arsenic. This test is sensible in a fluid which contains one-millionth part of five centigrammes of arsenious acid.

M. Reinsch prepared a mixture of boiled potatoes, milk and soup and introduced gr. 0.025 of arsenic into the mixture. He digested the whole with pure muriatic acid, diluted with an equal weight of water, boiled the liquor, filtered it and treated it with slips of copper; these were immediately covered with the arsenical pellicle, exactly as if the arsenic had been dissolved simply in acidulated water, or the mineral acid. This method hence appears preferable to Marsh's apparatus, as it cannot like the last, give rise to mistake, from the formation of stains derived from organic matters, or from the employment of arseniuretted zinc, or from the troublesome frothing of the liquid. It is easier, and requires less time than Marsh's apparatus, and certainly equals it in sensibility.

All that is necessary for medico-legal purposes, is to digest the contents of the stomach and intestines, with pure diluted muriatic acid, and then the filtered liquor with slips of copper.

If further examination be necessary, let the slip of copper covered as above, be carefully washed with water, in the same vessel in which it has been boiled with the suspected liquid, and then dry it cautiously over the flame of a candle. It is then to be slipped down the centre of a glass tube about sixteen inches long, one end of which terminates in a capillary orifice, whilst to the other is closely adapted a small bent tube, having its lower end furnished with a perforated cork. The part of the tube where the copper lies is then to be heated for



a short time with a spirit lamp, when arsenious acid sublimes along the tube in small but well-formed brilliant crystals. If we wish to test the arsenious acid thus formed, we may cut off the end of the tube, dissolve the acid, and apply the usual fluid tests. Or if we wish to obtain from it metallic arsenic on a porcelain plate, we can adapt by means of the cork, the bent tube to an apparatus for disengaging hydrogen and inflame the gas at the capillary orifice.—(*Translated and condensed from the Journal de Pharmacie.*)

T. R. B.

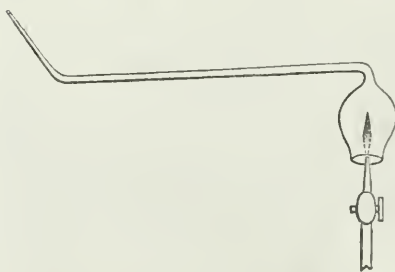
66. *Professor Christison's recent Observations on Legal Medicine.*—(Medico-Chirurgical Society of Edinburgh, January 4, 1843.)

Dr. Christison stated that he had recently succeeded in detecting arsenic in the liver of a person who had died from poisoning with that substance and whose body had been buried for three months. The process followed was that of Orfila and Marsh, with some immaterial modifications.

He further announced that he had detected alcohol in the stomach in two instances, where spirits had been taken not long before death and where a considerable period had elapsed between death and the date of examination. In one instance, the body had been buried about three weeks, in the other no less than three months; and the contents of the stomach had in each case been kept six weeks longer. The process of analysis consisted in cautious distillation from carbonate of potash—neutralization of the distilled fluid with sulphuric acid to remove ammonia; redistillation till a fifth of the fluid passed over, and agitation of the new distilled liquor with dry carbonate of potash. A clear colourless liquor rose to the surface, presenting all the characters of rectified spirit, and amounting in the case of the three months interment, to one fluid drachm of the density of .836. The author concluded with showing that the possibility of detecting alcohol in such circumstances was, so far as he was aware, a new fact in toxicology.

Dr. Christison lastly observed, that on the two occasions just alluded to, he had applied for the detection of arsenic the process lately proposed by Reinsch, and had obtained most satisfactory results. In medico-legal investigations, he considered it superior to every other process, of equal delicacy, greatly superior to every other in point of convenience, where complex fluids or mixtures of organic solids were to be examined, and a process which on the whole was likely to supersede all others hitherto proposed.

Dr. Christison likewise exhibited a simple apparatus which he had devised for collecting and examining the products of the combustion of the gas in Marsh's



apparatus. This will best be understood by a reference to the accompanying wood cut. The gas in this tube burns in contact with an abundant supply of atmospheric air, the products being water and arsenious acid. These collect in the tube, at its further extremity, which ought to be kept cool by water dropping on it. The fluid thus obtained can be subjected to the ordinary liquid tests for arsenic.—*Lond. and Edin. Journ. of Med. Sci.* March, 1843. T. R. B.

67. *Weights now in use with French Apothecaries.*—In my notices of French weights in this and in preceding numbers, except where otherwise stated, I have followed the table given in Johnson's *Medico-Chirurgical Review*, for October 1840, p. 529. The editor informs us, that since the beginning of 1840, the French government has directed that the old system of weights used by chemists and druggists, and consisting of grains, scruples, drachms and ounces, be abolished and be replaced with a decimal system as follows:

One grain equivalent to 5 centigrammes.

Ten grains, equivalent to 50 centigrammes.

Twenty grains equivalent to 1 gramme.

Thirty grains equivalent to 1 gramme and 50 centigrammes.

Fifty grains equivalent to 2 grammes and 50 centigrammes.

One scruple (34 grains) equivalent to 1 gramme and 30 centigrammes.

One drachm\* equivalent to 4 grammes.

Two drachms equivalent to 8 grammes.

Half an ounce equivalent to 15 grammes.

One ounce equivalent to 30 grammes.

T. R. B.

68. *Case of Poisoning by Lead in Maccouba Snuff.* By Professor OTTO, of Copenhagen (*Zeitschrift für die Gesamte Medicin*).—The following cases have excited universal attention at Copenhagen. M. Dreyer, highly esteemed as a scholar and a botanist, has enjoyed general good health until the autumn of 1841, when he was seized with the common symptoms of dyspepsia, and with costiveness and a muddy complexion. As he led a sedentary life, exercise was advised and bitter and laxative pills were prescribed. After this, he felt a little better, but just before Christmas, was seized with uncommonly severe colicky pains. His pulse was natural, tongue clean, and the abdomen not painful on pressure. The bowels had been open on the previous day. Enemas containing a grain of opium gave relief. Even then, the suspicion of lead being the cause, was excited, and Dr. Ahrensens supposed that the red wine prescribed, might contain it, but this was found not to be the case.

The improvement did not long continue, the bowels remained costive, the colicky pains returned with cardialgia. He had four of these attacks during the winter, which were removed, partly by purgatives and partly by opiates. In one of these only, was there quickness and tenseness of the pulse, with tenderness of the abdomen, and for this he was bled, and calomel was added to the opium. During the last attack, a very large quantity of round hard fæces were discharged, and after this the patient felt very well. In a week however, he was attacked with violent headache and this ended in a comatose state. In spite of all remedies used, he died at the end of two days, and about four months after the first attack of colic.

On dissection, every part was found healthy in the abdomen, except a trifling enlargement of the colon, probably caused by the frequent clysters; the brain too was healthy, except a slight injection of the membranes.

The deceased was much lamented, but his death had been almost forgotten, when his friend Dr. Bramsen read in a journal that red Maccouba snuff was sometimes adulterated with red lead. On this, he imagined that his deceased friend, who took a great deal of this snuff, might have been poisoned by it. He therefore bought some at the shop where the deceased used to buy his and found that it was mixed with a number of large and small grains, which looked like minium, and on chemical examination, he discovered that the snuff contained from sixteen to twenty per cent. of lead.

In the case of a young physician still alive, who is a great snuff-taker and long used the same snuff as the deceased patient, there has been an affection of the abdomen, characterized by colicky pains and obstinate costiveness. This has continued for a year, and he has become very thin. As he has now left off taking the snuff, it is to be hoped that he will be cured.—*Lond. Med. Gaz.* April 1843.

T. R. B.

69. *Infanticide by Suffocation.*—The earth or ashes which is found in the mouth or pharynx of those which have been hid in either, form a paste with the mucosity that adheres to the coats of these cavities, and in this way their further progress to the œsophagus and stomach is stopped. The presence of these

\* The drachm is now fixed as equivalent to 80 grains, instead of 72 grains, as formerly.

T. R. B.

foreign bodies in the mouth, the pharynx and larynx, is therefore not a positive proof in favour of the child being alive when buried in this way. They may be found whether the infant was alive or dead. But the length and flattening of the œsophagus is such, that the foreign bodies will not enter it, by gravity alone, even if the infant were placed in a vertical posture. Hence the presence of the foreign bodies in question, in the stomach and intestines of a child thus found dead, can have been caused only by an act of deglutition, and consequently it must have reached these while living, and we can form some idea as to the time that it has survived, by the extent of the intestinal canal, through which the foreign bodies have passed.—*Mathyessens in Archives de la Médecine Belge*, April 1843.

T. R. B.

70. *Remarkable Case of Suicide from the presence of a large Iron key in the œsophagus*, by Dr. ROBERT JACKSON, of Leith.—Dr. Jackson was requested to visit Mrs. A., a widow aged 42, lately of irregular habits, who was stated to have swallowed some foreign body with the intention of committing suicide. It appeared that the day previous she had attempted to hang herself. The woman who gave this account was much inebriated, and Dr. Jackson, on seeing Mrs. A. found her calm and collected and positively denying the charge. Nothing in her appearance rendered it probable. She complained however of a slight sore throat, was a little hoarse and had some pain in swallowing, but her breathing was natural. The fauces were slightly inflamed and nothing unusual could be seen in viewing the throat. Dr. Jackson requested her to call the next morning at the dispensary, but he saw nothing of her until the 18th of March, a period of forty-two days, when he was again desired to visit her.

Mrs. A. now informed him that she had never been well since he had seen her; suffering much from difficulty in breathing, cough with expectoration and some pain in swallowing, and she thought she was getting worse. He questioned her most seriously concerning her attempt at suicide; she did not deny the attempt to hang herself, but reiterated again and again that she had never swallowed any substance with that intent, and seemed displeased at his inquiries. The neighbour also, who was now acting as her servant, had withdrawn her belief of such a thing. She was emaciated, pale, with an anxious expression of countenance, considerable dyspœa, taking long inspirations, which were accompanied with a loud croupy noise, her voice was hoarse and she spoke in a loud whisper. She had considerable cough, with a mucous expectoration. There was considerable difficulty of swallowing, but not much pain except at one small spot, just behind the thyroid cartilage; she contrived however to take her tea as usual and could swallow hard biscuit, for which she had a partiality. She often also took beef tea, wine, and could swallow pills. She was treated as labouring under some affection of the larynx or trachea, and was bled freely and had blisters applied to the part. She took medicines readily; but continued much in the same state, until the day of her death, on the morning of which, she took her breakfast, consisting of tea, an egg and some hard biscuit. During the day, her breathing became more and more laborious, coma followed, and she died in the afternoon of the 2d of April, *fifty-eight* days after Dr. Jackson had been first called.

On dissection, the parts diseased were immediately exposed. A transverse incision was made above the epiglottis down to the spine. As soon as this was done, Dr. Jackson observed the block of a key in the œsophagus, resting on the anterior wall of that tube, close upon the epiglottis, but a little beneath it. The extremity of the block of the key rested immediately below the hyoid bone on the left side, causing a small patch of ulceration on the mucous membrane of the œsophagus, where it was in contact with it. The pipe or tube of the key lay on the anterior wall of the œsophagus, forming for itself a sort of groove or furrow, which exactly fitted it. About two inches down, was a small deep spot of ulceration, which extended through all the coats of the œsophagus, and went as far as the mucous membrane of the trachea, exposing and laying bare part of the thyroid cartilage. The ring or handle of the key in its descent had caught



hold of a fold of the lining membrane of the gullet, and by pushing this a little way before it, had formed a pouch or sac, which had stopped its further progress. The canal of the œsophagus was continuous posterior to this fold. From the irritation produced by this part of the key, inflammation had set up, and by the effusion of lymph, the walls at this part were greatly thickened and hardened, and the formation of the sac completed and strengthened.

The adjacent parts bore marks of irritation and inflammation; the lungs were very crepitant and contained a large quantity of frothy matter. The pericardium contained about an ounce of bloody serum. The remainder of the organs presented no unhealthy appearance.

The key was a common iron cellar key, of a black colour and very slightly corroded. It measured four inches in length, one inch broad at the wards, and one inch and a half at the handle. It was proved after Mrs. A.'s death, that on the day of its occurrence, a young woman heard her declare with an oath that she had swallowed the cellar key. This key also could not be found, to open the cellar door. And again it was ascertained that she had also attempted suicide, by forcing the poker down her throat.

Dr. Jackson is of opinion, that her death was not occasioned by what is properly called suffocation, neither from dysphagia, or want of nourishment, but rather from irritation to the bronchi and lungs and gradual mal-oxygenation of the blood, from the œdematous state of the larynx and laryngeal opening.—*Condensed from Edin. Med. and Surg. Journ.* July 1843. T. R. B.

71. *Answers returned by the Fifteen Judges to the Questions on the "Plea of Insanity," submitted to them by the House of Lords.*—The answers were read in the name of all the judges, excepting one, (Mr. Justice Maule,) by Lord Chief Justice Tindal, on the 19th June, 1843.

QUESTION I. What is the law respecting alleged crimes committed by persons afflicted with insane delusion, in respect of one or more particular subjects or persons: as for instance, where at the time of the commission of the alleged crime the accused knew he was acting contrary to law, but did the act complained of with the view, under the influence of some insane delusion, of redressing or avenging some supposed grievance or injury, or of producing some supposed public benefit?

ANSWER. The opinion of the judges was that notwithstanding the party committed a wrong act, while labouring under the idea that he was redressing a supposed grievance or injury, or under the impression of obtaining some public or private benefit, he was liable to punishment.

QUEST. II. What are the proper questions to be submitted to the jury, when a person alleged to be afflicted with insane delusion, respecting one or more particular subjects or persons, is charged with the commission of a crime, murder for example, and insanity is set up as a defence?

ANS. The jury ought in all cases to be told that every man should be considered of sane mind until the contrary were clearly proved in evidence. That before a plea of insanity should be allowed, undoubted evidence ought to be adduced that the accused was of diseased mind, and that at the time he committed the act he was not conscious of right or wrong. This opinion related to every case in which a party was charged with an illegal act, and a plea of insanity was set up. Every person was supposed to know what the law was, and therefore nothing could justify a wrong act except it was clearly proved that the party did not know right from wrong. If that was not satisfactorily proved the accused was liable to punishment; and it was the duty of the judge so to tell the jury when summing up the evidence, accompanied by those remarks and observations which the nature and peculiarities of each case might suggest and require.

QUEST. III. In what terms ought the question to be left to the jury as to the prisoner's state of mind at the time when the act was committed?

No answer was returned to this question.

QUEST. IV. If a person, under an insane delusion as to existing facts, commits an offence in consequence thereof, is he thereby excused?

Ans. If the delusion were only partial, the party accused was equally liable with a person of sane mind. If the accused killed another in self-defence he would be entitled to an acquittal, but if the crime were committed for any supposed injury he would then be liable to the punishment awarded by the laws to his crime.

QUEST. V. Can a medical man, conversant with the disease of insanity, who never saw the prisoner previously to the trial, but who was present during the whole trial and the examination of all the witnesses, be asked his opinion as to the state of the prisoner's mind at the time of the commission of the alleged crime, or his opinion whether the prisoner was conscious, at the time of doing the act, that he was acting contrary to law? or whether he was labouring under any, and what delusion at the time?

Ans. The question could not be put in the precise form stated above, for by doing so it would be assumed that the facts had been proved. When the facts were proved and admitted, then the question, as one of science, would be generally put to a witness under the circumstances stated in the interrogatory.

Mr. Justice Maule agreed with the judges in respect to the answers returned to all the questions excepting the last; from this he entirely dissented. In his opinion, such questions might be at once put to medical men without reference to the facts proved; and he considered that this had been done, and the legality of the practice thereby confirmed on the trial of M'Naughten.—*Brit. and For. Med. Rev.*, July 1843. T. R. B.

72. *Rupture of an Aneurism of the Left Gastro-epiploic Artery.* By Dr. ALLE. —A young woman, in the fifth month of her pregnancy, attended a ball with her admirer, where she danced till two o'clock in the morning. She was now seized with such violent pain of the abdomen, that she had to be carried home. The medical attendant, who was summoned to the patient, found her cold, pulseless, and with all the symptoms of effusion of blood into the abdomen. She died very shortly afterwards. The post-mortem examination, which was performed by Dr. Allé, discovered the abdomen to be quite full of blood, partly fluid, partly coagulated. He imagined, in the first instance, that the hemorrhage probably proceeded from a rupture of the ovarium or tube, in consequence of extra-uterine conception, but careful examination showed everything in connection with the fœtus in a healthy state. The source of the fatal hemorrhage was discovered to be the left gastro-epiploic artery, which was enlarged at one point into an aneurism, and had there given way.—*Lond. and Edin. Med. Journ. Med. Sci.*, March 1843, from *Oester Med. Wochens.*, No. 51, 1842.

## AMERICAN INTELLIGENCE.

## ORIGINAL COMMUNICATIONS.

*Of the state of mind necessary to constitute a valid will. Case of Stewart's executors v. Lispenard, as tried and decided in the courts of the state of New York.* By T. ROMEYN BECK, M. D.

ANTHONY LISPENARD, Sen., died in 1806, leaving two surviving sons, Leonard and Anthony,—two daughters, Alice, and Sarah wife of Alexander L. Stewart,—and one granddaughter, an only orphan child of his daughter Helen Bache. His last will and testament, dated Dec. 24, 1802, contains among other matters, the following:—

"My will further is, that the sum of seven hundred and fifty dollars be allowed and paid to my beloved wife Sarah, every year during her natural life, either in half yearly or quarterly payments, as she may elect to receive the same, to commence immediately after my decease, but which provision is intended to be in full and lieu of her dower. And as it has pleased Almighty God that my daughter Alice should have such imbecility of mind, as to render her incapable of managing or taking care of property, my will further is, that she be allowed for her maintenance the sum of five hundred dollars annually during her natural life, and that my executors hereinafter named pay out of the income of my estate to my said daughter Alice, the said sum of five hundred dollars, in half yearly payments, to commence immediately after my decease."

The remainder of his estate was to be equally divided among his other children and his granddaughter.

In January, 1818, Anthony Lispenard, jun., died unmarried, intestate and without heirs, whereby his sister Alice succeeded to one-fourth of his estate, or one-sixteenth of the estate whereof her father died seised and possessed.

In January, 1836, Alice Lispenard died, aged 55, leaving the following will, dated August 27, 1834.

"I give and devise all my estate, real and personal, whatsoever and wheresoever, whereof I shall die seised or possessed or entitled unto, of what nature and kind soever, to Alexander L. Stewart, his heirs, executors, administrators and assigns forever, to his and their own use and benefit, and I hereby constitute and appoint him sole executor of this my will, and in case of his decease before me, then I give, devise, and bequeath all my said estate to his daughter, Sarah Skillman, her heirs, executors, administrators and assigns forever, to her and others own use and benefit, &c. &c. This disposition being made by me in consequence, and as a testimony of my remembrance of the care and kindness manifested towards me by my said relatives, Alexander L. Stewart and Mrs. Skillman."

On Mr. Stewart, the executor above named, asking probate of this will at the Surrogate's Court for the County of New York, its validity was contested by several of the heirs-at-law, and the state of mind of the deceased during her whole life, but particularly at and near the time of making the will, became the subject of investigation.

I propose analysing the testimony according as the witnesses were acquainted with her from childhood onwards; but previous to this, it may be as well to give the depositions of the witnesses to the will, both of whom were physicians, and in attendance during her last illness.



Dr. John Neilson saw Alice Lisenard execute said will by making her mark and acknowledging it to be her will, and he witnessed it in her presence, at her request. She said she wished the will executed in favour of her brother. He considered her competent to make a will, and she did not appear at that time to be under any restraint. The testatrix could not write, she was not aware whether she could read or cypher. She attended to household concerns (residing in the family of Mrs. Stewart) so far as to transact any errand on which she was sent, very correctly. He often conversed with her, but did not find her of ordinary understanding, and believed her to be a weak woman, but considered her competent to take care of her own property, and he further explained the previous remark by saying that she was a woman that understood perfectly well what she was doing, but of weak judgment. She never entered into much conversation. Her memory was good, and even extraordinary, because when questions were asked concerning things that occurred a long time back she answered correctly. "During her last illness, when she was attended by Dr. Hunter, I was called in as her physician to see her, I think it was the day previous to her death; I asked her how she did, she said she had been very sick, and was so then, and that Dr. Hunter had been giving her medicine, and she told me what she had taken, and what had been done for her several days past, and it was stated by those around her, that her account was correct."

Dr. Abraham T. Hunter had known the deceased for ten or fifteen years, and had seen her during that time almost every day, and for the last six or eight years had paid particular attention to her, as an observer of her capacity. He conversed with her frequently, but not for any length of time. He confirms all the particulars attending the execution of the will, as given by Dr. Neilson, and subscribed his name as a witness at her request.

When he first became acquainted with her, he was led to suppose from her manner that she was an idiot, but after paying more attention to her and getting into conversation, he found her memory good and her ideas well arranged. She was very near-sighted, and this made her awkward in her appearance, and she was also very reserved and retired, so that it "became necessary to draw her words out of her." "Three days before her death, she said she was going home. I asked her what she meant. She said she was going to her God, and felt perfectly happy in her mind. She was then much exhausted, and I said nothing more to her."

As to the state of mind of Alice Lisenard during childhood and youth, the following witnesses testify.

Mrs. Satterthwaite, a near relative of the family, had known her from her infancy. From early life she needed a person to take charge of her, she was incapable of assisting herself; she required washing, nursing, and putting to bed the same as a child, until she was 22 or 23 years of age. Her general appearance was that of an idiot; she had a silly and unmeaning laugh when spoken to, with a foolish manner of hanging her head, and of answering a question. She could neither read, write, or sew. Attempts were made in vain to instruct her from seven to twelve years of age; she was very high tempered, and occasionally violent and abusive in her language. She never joined in amusements with the rest of the children after she was grown up; she had known her to dribble at the mouth.

This witness appears to have seen the deceased only occasionally after 1813, and all attempts to hold conversation with her proved fruitless.

James Davidson, aged about 80, held some lots of Mr. Lisenard, adjacent to the garden of the latter, and which he cultivated as a flower garden. He was allowed free access to the premises of Mr. L., and visited in his family. The manners of Alice, then a child, were very reserved and shy to strangers, but after a few meetings she became very familiar with Mr. Davidson. She was much indulged, and allowed to do as she pleased. He frequently saw her in the garden and greenhouse of her father, and she would converse on the different plants, of which there was a great variety, and speak of their beauty. It was the opinion both of Mr. and Mrs. Davidson, and they had repeatedly conversed on

the subject, that if Alice had received an ordinary education and been properly managed, she would have been a very shrewd girl.

*Elizabeth Brower*, aged 52. Alice and herself were playmates together. Alice was at this time about seven or eight years old, and the witness does not recollect any difference between her understanding and that of other children, nor was she more watched or looked after. There was a female teacher employed in the house, but Alice was much indulged and neglected. Mrs. Brower again saw her after an interval of ten years: "she inquired how I had been, about my family, and about my brother. She asked me regular questions, and I answered them. She appeared to be rational and intelligent."

*Jane Martin*, at the age of nine was a playmate of Alice, then two or three years older, and did not at that time perceive any difference in point of intellect between her and the rest of her playmates. She was exceedingly indulged by her father; any thing she wanted she must have, and if she cried, he would coax her. Her temper was sullen and obstinate; she was allowed as much beer as she wanted, and would send the servants for it. She went to Mrs. Sibbly's school for one or two quarters during the warm weather with her sister (afterwards Mrs. Stewart).

In 1815, my daughter went up to the old house, where Alice was then boarding with Mrs. Godwin: "they told Alice it was my daughter, and she sent me some flowers by her."

*Jemima Vreeland*, aged 54, was, during childhood, in habits of constant intercourse with Mr. Lisenard's family, and for two years went to school with his children, Sarah and Alice. The latter could play and learn her lessons, when she chose, like the rest. Witness was in the same class with her. She could spell and read some, but only in the spelling book; she would frequently neglect her lessons, and Mrs. Montagnie (the school mistress) would make her sit down on a seat and learn her lessons; this she did, "unless her father interfered to prevent it, and that he often did." Witness also testifies to seeing her write large hand, and sew pocket handkerchiefs and towels. She was obstinate and self-willed, and her father always appeared to give way to her. Each of the three last witnesses confirm the statement of her being near-sighted in childhood.

*William Baldwin*, a coloured man, was a servant in the family of Mr. Lisenard for ten years prior to his death, and he remained four years subsequent with his son Leonard. Alice was, when he first went there, about fourteen or fifteen years old. She differed entirely from the rest of the children; she did nothing, took no part in any thing about the family, and did not appear to be competent to do any thing. She had always a female during the lifetime of her father to take care of her, to dress, undress, and attend to her room. Her appearance was different from that of other young ladies, and in his opinion, she had no understanding at all. At about twenty years of age, she began to drink to excess.

*Phoebe Thompson*, a coloured woman, servant in the family, first knew Alice when she was about sixteen years old, and the witness fifteen. Witness continued to work in the family until the old people died, and during all that time had constant opportunities of seeing and observing Alice. She was in the habit of attending to the family affairs, when asked to do so, "would tell her mother what had come from market, and her mother would give her directions concerning dinner, which she would convey to the kitchen;" the household at this time consisted of about thirty-five persons.

It was during this period that Alice became intemperate. Every day for years, she would begin to drink about ten o'clock and continue until night. From ten until one was the worst time, and if crossed, she was violent in her temper. But she continued carrying messages to and from the kitchen (which was at some distance from the house) as before. Her parents put no restraint on her habit of drinking, but rather encouraged her in it. For some time she drank only beer, but when the brew-house was done away with, it was either brandy or spirits. When in liquor she used to dribble at the mouth, and she frequently reeled or staggered. The servants, however, even at this time, attended to her orders or directions the same as they would to any other member of the family. She used

to bring the clothes to wash, would take them off the lines, and "she would always let us know if a shower was coming, that we might take in the clothes." She was much indulged by her parents; no one dared to control her, and she had frequent differences with her brother Lispenard, who, with his family, resided with her father.

This witness again saw Alice for several months during the last years of life, and while she was residing in the family of Mr. Stewart. The dribbling was entirely gone; her temper, although still cross when displeased, was greatly improved; she manifested much attachment to witness as an old servant of the family, and remembered all those who had formerly belonged to it. She assisted Mrs. Stewart in her family affairs, and was more particular as to her dress, and the arrangement and order of her room than she had ever been.

*Harriet E. Freeman*, aged about 43. Witness's mother was the housekeeper of Mr. Lispenard for nine years: during that time Mrs. Freeman resided in the family. She was about twelve years old when her acquaintance with Alice commenced, and who was probably about twenty. Alice was considered silly; she would cry on the most trifling occasions; was not allowed any money, nor to go out alone; she generally sat at the window, day and evening alone, and no person conversed with her, nor did she converse with any body. She had no knowledge of the value of money or of property.

I shall presently state Mrs. Freeman's testimony as to Alice's condition at a more advanced period of life.

*Isabella Lee*, went at two years of age on the farm of Mr. Lispenard, and remained there until she was sixteen. Alice was probably from seven to nine years older. Mrs. Lee was in the constant habit of playing with her and her sister at her father's house. She joined in the usual sports, and being the oldest, often took the lead in them. She went to school with the other children to Mrs. Montagnie (in her father's house). She was not an attentive scholar, but could read in the spelling book; she sewed as the rest of the children sewed; was very obstinate; much indulged; very near-sighted; and was allowed free access to wine, and used it too freely. Witness met Alice after a long interval, some four or five years ago in a stage in New York, and asked if she knew her: she replied yes. "I asked her if she knew my name: she said yes, my name used to be Bella Hollaway, which was my maiden name."

*Mary Bleecker* was a relative of the Lispenard family, and was intimate there when a child, and also in after years, always considered Alice as an idiot, and did not deem her capable of conversation, and never heard her say more than yes and no. Alice was always quiet and still, and when a child, did not join in the usual sports, but usually kept aloof and would not look on. Mrs. Bleecker's opinion of her being an idiot was formed from her manner, silence, and appearance. Witness has not been in her company since her father's death.

*Elizabeth Stanton*, aged 68, had been an inmate in the family several years when a child, as her mother was a servant in it. As Alice grew up, witness noticed that she was not like the other children, she took no part in their diversions.

I might quote the testimony of other witnesses as to this period in the life of the deceased, but it would not furnish any additional facts or circumstances.

From 1800 to about 1814, the following may be mentioned. *Charles Graham*, Counsellor at Law, was in the habit of visiting the family, and occasionally saw Miss Alice. He formed the opinion that she was a person not of vigorous intellect, but perfectly competent to the ordinary transactions of life. He positively asserts that she was not considered an idiot in the family. "I should not have relied on her judgment as to buying and selling real estate, but as to any article she might want for her personal use, I think she was perfectly competent. I conversed with her within six or eight months of her death, and found no variation of her intellect from what it was in her father's time."

*Mrs. Clerke* and *Mrs. Ducachet*, both relatives, speak of her as being considered of an imbecile mind by the family and treated as such. Neither of them



appears to have ever held a conversation with her. They considered her incapable. Her countenance was very vacant; her posture awkward when spoken to; she would giggle and laugh in a silly manner.

*Mrs. Gavitt* knew Alice from 1800 to 1806, as her father lived opposite to Mr. Lispenard's. "I was often in the garden and yard, and have been in the house, but not often; the girl Alice used to attract my attention, because she acted so very foolish; she would stand for a long time and look at the sun, as if she was in a kind of stupor and amaze; she appeared to be entirely void of intellect at that time."

In the opinion of the Surrogate, it is stated that on the death of her father in 1806, she resided with her brother Leonard until 1813, when she was put out to board with them until 1827. The testimony as to this period is important.

*Harriet E. Freeman.* Alice boarded with her about two years. She knew nothing about sewing, nor could she be taught it; she could partly dress and undress herself, but "we generally put her cap on and fixed her dress." Alice was never suffered to go out alone in the street; she was occasionally taken to church, but took no notice of the exercises. Witness had also attempted in vain to teach her the Lord's Prayer. She was very passionate, often for a mere trifle, and would cry childishly. She would eat voraciously, and whatever was put on her plate; was allowed four glasses of wine daily. On the cross-examination, witness stated, that when endeavouring to teach her the Lord's Prayer, Alice sometimes would laugh, and they could not make her speak, and again she would say she did not want to. At other times, she would begin to repeat and then break off with the same expression.

*Mrs. Burtzell*, a sister-in-law of Mrs. Freeman, and often at the house while Alice was boarding there, never heard her attempt to speak several sentences connectedly. She was always helped at table, and Mrs. B. never saw her desire or ask for any thing. She would eat too much, unless restrained.

*Mr. Browning*, a boarder at Mrs. Freeman's, confirms most of the above statements.

*Elizabeth Stanton.* Alice boarded with her mother, Mrs. Godwin, for one year, (probably 1816 or 1817.) She was not thought capable of taking care of herself, and therefore was never left alone. They would sometimes put sewing in her hands, and she would sew a little and then throw it down and say she would do no more. Witness did not consider her competent to purchase articles; believing that she did not know the value of money or of property, and hence, did not suppose her capable of making a will. She was sullen in her manner and appearance, and never entered into conversation.

*Helen Gray.* Alice came to board with her mother, Helen Taylor, in 1817, and continued there until 1827. Mrs. Gray resided in the family during upwards of four years of the above term, and visited frequently during the remainder. Mr. Stewart, who paid for her board, directed that Alice should not be suffered to go into the street alone, and after some time, requested that she should be directed to carry up wood or water, in order to exercise herself. She did so when ordered. She usually sat still by the window or walked about the room. Her temper was violent; she once struck witness in the face with her hand, and at another time, when she was alone with the children, choked witness' little boy until he was black in the face. Mrs. Taylor, when she behaved ill, would send her to her room till she promised to behave better. She would stay there until sent for, and then if asked whether she would do so again, would say no, but never came voluntarily to make apologies. When any trifling thing did not suit her, she would swear. She was fond of cake and sweet things, and Mrs. Taylor would, when she went out, tell her that if she behaved well she would bring her something, and cakes and candies were always brought for her and the children. If this promise was not fulfilled, she would cry and make a fuss. She would pick the ends of her sleeves and apron strings to pieces, and rub her handkerchief in pieces. Mr. Stewart sometimes visited her, and would say to her, "aunt Elsie, are you a good girl?" She would just put down her head in her neck and laugh; sometimes she would say yes, and sometimes she would not say any thing; she generally laughed when any one spoke to her. She ate

greedily, and was always helped to her food, which was cut for her. She generally sat stooping forward. In the opinion of witness, she did not know the value of money.

*Henry B. Taylor and Maria Taylor*, the son and the daughter-in-law of Mrs. Taylor, and resident in her family, confirm the testimony of Mrs. Gray in every material respect.

*Mrs. Warner* lived for two years next door to Mrs. Taylor, and saw Alice almost daily. She was very reserved to strangers, but conversed freely and frequently with witness, and several times during Mrs. Warner's absence from home, took charge of her infant child, six months old. She was frequently left with it an hour at a time. Mrs. Warner often saw Alice dress herself, and on one occasion, was with her at a store in Broadway, and saw her buy thread, needles, and pins, and pay for them. Some years afterwards witness saw Alice at Mr. Stewart's, when she recognized her, called her by name, and asked after the child, of whom she had been so fond.

*Mrs. Murden and Mrs. Vincent*, also knew Alice when boarding at Mrs. Taylor's, and they corroborate the testimony of Mrs. Warner, as to the conversing freely with her, and her ability to dress and undress herself, and the care which she took of her clothing.

The present will be a proper place to mention that, in consequence of the proposed conveyance of some property by Alice, the opinion of certain physicians was taken as to her mental capacity. And in the appendix to the testimony, the certificates of Drs. Neilson, Stringham, Guy C. Bayley, Barrow and Graves are given. They unite in stating that they had frequent opportunities of visiting and conversing with Alice, and that in their opinion, her mind was sufficiently strong to direct her in the ordinary occurrences of life, and that her unfavourable appearance was rather to be attributed to neglected education than to mental incapacity. These certificates appear to have been given about the year 1815.

Drs. Bayley, Barrow and Graves, were examined before the Surrogate. The former stated, that if his opinion was now to be formed from further observations, he would be disposed to allow her less of mental capacity than he formerly did. She did not appear to know enough of the nature and value of property. The other medical gentlemen adhered to their former statement.

As already hinted, Alice was taken into the family of Mr. Stewart about the year 1827, and remained a member of it until her death in 1836. She was treated with great kindness and attention by Mrs. Skillman, daughter of Mr. Stewart (afterwards the wife of the Rev. Charles S. Stewart). She was gradually weaned from her habits of intoxication, and became in some degree an active member of the family. In comparing and analysing the testimony concerning her at this period, I omit a notice of that of James Watson Webb, Rev. Charles Stewart, and his wife, and the Messrs. Satterthwaite's, as their near relationship and interest in the disposition of her property, might be supposed to give a shade of colouring to their opinions. Of the many witnesses presented, I notice the following.

*Isabella Henderson* resided as seamstress and nurse in the family of Mr. Stewart, during part of 1831-5. She was engaged in washing and dressing Alice, and always took her to be an idiot. Her conduct was so silly, and her temper outrageous. Witness never knew her to hold any connected conversation, and further states her inability to read or write, and her ignorance of the value of property. Alice was treated disrespectfully by the servants, but with kindness by the members of the family. If she behaved ill, her victuals were sent to her room.

*Sarah Ann Fisher* was also a servant in the family during part of 1834-5, and had particular care of Alice during that time. Alice required assistance to dress herself, but not to undress. She was uneducated, and witness was unable to make her understand religious things. When in a passion, she would sometimes strike persons, and was then sent to her room, and her meals were sent in to her. Sometimes she was very penitent for this, and would come to the persons she had offended and ask their pardon. She always kept her drawers of clothes in

order, and when any required repairing, she would show witness what she wanted to be done. When Mrs. Stewart was absent, she had the keys of the pantry; and if any thing was wanted, would give it to those who asked her kindly, but not without hesitation. To those who were sick in the house, she would come perhaps three or four times a day, and ask them how they did. She was attentive to what she knew she had to do; and if in a good humour, would perform it, but sometimes she would get into a violent passion. She would but seldom joke; she would often repeat simple childish stories. Witness considered Alice void of understanding, and that she did not know right from wrong.

*Rev. Duncan Dunbar* had been acquainted in the family of Mr. Stewart for eight years, and was in the habit of conversing with Alice. Her answers and remarks were pertinent and sensible, and thus struck witness as being in contrast with her appearance, which was awkward and wanting in politeness. Her reserve wore off, and he positively asserts, that he never saw her do any act, nor say any word that would indicate mental imbecility. Mr. Dunbar was absent for a few months in Europe, and on his return called at Mr. Stewart's. He found Alice alone in the parlour. As soon as he spoke she recognized his voice, shook hands, and congratulated him on his return, inquired as to the health of Mrs. Dunbar, and expressed regret that the ladies of the family had driven out. At one period, Mr. Dunbar supped by request, every Sunday evening for five or six months at the house of Mr. Stewart, and conducted family worship. He never on these occasions saw any thing about Alice to change the opinion above expressed.

*Edward V. Price* was a clerk in the office of Mr. Stewart in 1834-5. Alice was in the daily habit of coming about matters appertaining to the family and household, and on such occasions, addressed herself to witness, and exhibited a perfect knowledge of matters, and employed correct and proper language. She had a good memory, and conversed with propriety on ordinary occurrences.

*Sarah Sargeant*, was employed for several years in Mr. Stewart's family, in mantua-making and other sewing. Witness passed many whole days in the same room with Alice, and sometimes rested at night in the same room. She conversed freely and sociably with witness on ordinary affairs, and never evinced any thing indicative of imbecility of mind. Her memory was good, and she was a keen observer. She would dress herself as well as other females generally do. She was gradually weaned from the habit of drinking, until at last, she abstained entirely, saying she did not want it, and this with the kindness shown to her by the family, had a very manifest effect on her attention to dress and her behaviour. She ate at table with the rest of the family, and cut her own meat.

*Patrick Ward, Michael Mullen, Rhoda Griffith, Betsey Stockton*, servants at various times in the family, confirm the above statements. Alice was manager of the house when the other ladies were out; she had the keys of the pantry, and gave out such articles as were wanted; gave directions when messages were to be taken; spoke to servants when articles were out of place; and when it was desired to purchase things offered at the door, would ask the price and go and procure money to pay for them.

*Hannah Norman*, housekeeper, and *Theodosia Van Dalsen*, seamstress, are equally favourable in their opinion of the mental capacity of Alice.

*Thomas Brown*, house painter, *Ebenezer Smith*, mason, *John Robinson*, carpenter, *Samuel Spence*, workman, and *Ezekiel Yoemans*, purchaser of flour, vegetables, &c. for the family, all appear to have known and conversed freely with her, and found her of sufficient knowledge. The mechanics state expressly, that they frequently received directions from her, as to what job it was wished they should do; and uniformly found them correct. Mr. Yoemans was in the habit of receiving money from her, which she procured from the clerks, and thus transacted the affairs connected with his occupation.

Among visitors who were quite intimate in the family, *Moses Hoyt* and *Horatio Averill* were presented as witnesses. The former states his surprise at her com-



mencing conversation with him, at a time when he supposed her to be an idiot (1834), and was so informed. He continued his acquaintance with her, and speaks favourably of her state of mind.

The testimony of *Jane King*, who appears to have been a servant in the house and an attendant upon Alice during the last eight months of her life, is not materially variant from that just noticed; although she states that Alice did not appear to understand money matters. In some things she appeared quite smart, and to others quite insensible.

*Thomas Edmonds* was the confidential clerk and book-keeper of Mr. Stewart nearly fourteen years, and during nine of these, Alice was employed as the messenger. The office was in one house, and Mr. Stewart resided in the next one, but there was a communication between them leading to the office. Alice came sometimes daily, or three or four times a week to get money to pay bills, telling Mr. Edmonds particularly what it was for, and the part that was to be charged to herself, and that which came under the head of family expenses, &c. She appeared also to pay much attention to domestic matters, whether servants had executed errands, &c. It was the object of Mr. Stewart to keep her so employed, as to give her suitable exercise, Alice being a large and corpulent woman. Mr. Edmonds sometimes left her in charge of the office, and on his return, she would mention what had occurred. She did not need a person to look after her beyond what her years and near-sightedness might require. Witness conceived her competent to make a will.

The only remaining witnesses whose testimony I will refer to, are *Dr. John W. Francis*, and *Dr. James M'Donald*. They were respectively asked, whether when a person has been born of a feeble mind, they have ever known a new development of intellect after the age of forty. They replied in the negative, they do not think such an occurrence probable. The following question was also put. Suppose a person born with a feeble mind, has been permitted to acquire habits of intemperance in early life, and has continued in these habits for a long series of years, and then that they are entirely corrected, and pains are taken to instruct the individual, may not the mind of such person in after life exhibit more intellect than it did before? To this, Dr. Francis' reply was, "yes, the history of inebriation shows it;" Dr. M'Donald's, "It is possible, but I should fear not, because disease from the long use of ardent spirits might be superinduced upon a weak brain."

The testimony, of which the above is a brief, but I trust a faithful analysis, occupies an octavo volume of nearly three hundred pages. The Surrogate (James Campbell, Esq.) made a decree on the 26th of July, 1838, *refusing to admit the will to probate*. His opinion is given in full in the 26th volume of Wendell's Reports. He reviews the life of Alice according to the three periods already noticed, whilst she lived in her father's house, the time when she boarded with strangers, and that during which she lived in the family of her brother-in-law, Mr. Stewart.

Of the first, he remarks, that the attempt to instruct Alice failed, and the extraordinary and mortifying fact was disclosed that she was incapable of being taught to read, and much less to write, and her parents were obliged to abandon the attempt as altogether hopeless. As she passed from adolescence to womanhood, he observes that her mental defects became more apparent and striking, and he refers to the testimony of Mrs. Satterthwaite, of Baldwin and of Elizabeth Stanton, as far more decisive and positive than that of Mr. Davidson, Mrs. Lee, Mrs. Brower, Mrs. Martin, and Mrs. Vreeland, whose means and ability of observing and judging of the actions and character of Alice were certainly inferior to those produced on the other side. The will of her father is quoted as an evidence of his solemn and deliberate opinion. He doubts also, whether the habit of too

free indulgence in liquor was so great, or so long continued, as to produce any marked effect on her mind.

The testimony of those individuals with whom she boarded, and who were residents with her, must outweigh that of casual acquaintances and visitors.

The Surrogate also lays great stress on the value of the testimony of the servants in the family of Mr. Stewart, (Fisher, Henderson, and King,) and attaches but little to that of "the physicians, clergymen, lawyers, seamstresses, washerwomen, carpenters, masons, members of his own family, and occasional visitors at his house. Vague generalities and opinions, (he observes,) accompanied by no specific facts, actions and circumstances, characterize this testimony on the part of the executor; and when properly weighed and analysed, will be found to amount to little more than this, that Alice had her prejudices and attachments, and was not insensible to neglect or attention; that she could remember persons whom she had not seen for a long time; that she could carry and bring back messages with accuracy and a kind of mechanical precision; and that she could make and answer inquiries and questions on trite and familiar subjects, such as the state of the weather and of health. Now the ability to do all this, and even more, is not incompatible with great imbecility of mind," and in corroboration, he adduces the *dicta* of Sir John Nichol in *Ingram v. Wyatt*.

The fact of the employment of Alice in a daily round of drudgery imposed on her, is considered as a strong and conclusive proof of want of understanding, and the injustice in the disposition of her property is also dwelt upon. His final decision was, that Alice Lisenard at every period of her life was intestable for want of understanding, and the instrument propounded as her last will and testament was rejected.

The cause was affirmed *pro forma* in the Circuit Court, the next in judicial order, and from that carried up to the Chancellor's. That officer, in his opinion, remarks, that after a "very careful examination of all the testimony, I am perfectly satisfied that children in general at the age of eight years, who have had the same care bestowed upon them that Alice Lisenard had during the life of her parents, and particularly during the first twelve or fifteen years of her life, would be as competent to understand the nature and value of property, and to dispose of it by deed or will as she was at the time she made her mark to the instrument propounded as her will in this case." He also considers the declaration of her father, as made in his will, to be a strong and controlling circumstance. The decision of the Surrogate was constantly affirmed.

The cause was finally argued and decided in the Court for the Correction of Errors, in 1841. C. W. Sanford and Willis Hall (Attorney-General) appearing for the appellant, and B. F. Butler for the respondents. It is remarkable that no judge of the Supreme Court gave an opinion on the case, and that the decision of it constantly remained with the *lay members*, as they are called. The decree of the Chancellor was reversed by a vote of 12 to 6. The opinions of G. C. Verplanck and J. B. Scott, senators, and both for reversal, are published in detail. I may briefly notice some new and interesting points considered by the former.

Mr. Verplanck assumes and asserts the principle, that the right of testamentary bequest is not a mere institution of positive law, but a natural right, subject to the restrictions and regulations of civil legislation, yet not

its mere creature. According to the statutes of the State of New York, all persons except idiots, persons of unsound mind, married women and infants, may devise their real estate, by their last will and testament duly executed. Now the line of unvarying authorities, shows that in legal intent the natural defect of mind thus excluding persons from the ordinary rights of society does not consist in a limited degree of intelligence, but in an entire absence of it. An idiot is one, according to Fitzherbert, "who has not any use of reason, has no understanding to tell his age, who is his father or mother, what shall be for his profit and loss." Again the term *non-compos mentis*, or of unsound mind, imports not weakness of understanding, but a total deprivation of reason. "The ancient rule is thus expressed and reiterated by the latest and best text writers on this subject"—*Shelford on Lunacy*. "A person being of a weak understanding, so he be neither an idiot nor a lunatic, is no objection in law to his disposing of his estate. Courts will not measure the extent of people's understandings and capacities; if a man, therefore, be legally *compos mentis*, be he wise or unwise, he is the disposer of his own property, and his will stands as the reason for his actions."

True, the courts have in many cases, made the bequests of the imbecile void, but not on account of the general and positive disability of the party for all similar acts, but because of the relative character of the will or contract itself, and of all the external circumstances in proof, to the mental capacity of the party. The whole transaction taken together, with all its facts, of which the proof of mental weakness was one, showed that the consent, the very essence of the act, was wanting to *that particular act*.

In applying this view of the law to the case before him, Mr. Verplanck dwells on the numerous witnesses, who have spoken favourably of a measure of understanding in Alice, while others, he concedes, concur in representing her as silly and stupid. If, however, we regard the whole evidence, we shall find that the testimony of those who represent her as having been merely a dull and imbecile, but not an idiotic person, much outweighs those who depose to the lowest grade of intellect, both in numbers, station, education, and intelligence; and it is positive and *affirmative* in its character.

The clause in the will of her father is to be taken as it is expressed. He considered her incapable of managing and taking care of property. If he had deemed her an idiot, the payment of the annuity would have been directed to be made to trustees for her support. In the words of Judge Washington, "The capacity may be perfect to dispose of property by will, yet very inadequate for the management of other business, as for instance, to make contracts for the purchase and sale of property."

Whatever may be the opinion of the reader on the merits of this case, there can be no doubt of the talents and ability with which Mr. Verplanck (as in numerous other cases before the Court of Errors) advocated his views.

*Case of induction of Premature Labour.* By J. V. HERRIOT, M. D., of Cannonsburg, Washington Co., Penn. [Communicated in a letter to C. D. Meigs, M. D., dated Dec. 26th, 1842.]

Mrs. A., thirty-five years of age, good constitution, short, compact, bony



frame, pelvis natural figure, but (judging by the finger,) under the ordinary size in all its diameters, with a copious development of adipose tissue—has had four living children without the aid of instruments of any kind; her labours, however, she says were very severe. Since these she has had three still-born. In the first of these cases I attended her—a vertex presentation, with prolapsus of the umbilical cord (the cause of its death); a severe and protracted labour. In the second case vertex presentation, prolapsus of the cord; the labour protracted and severe, and the head having engaged but partially in the superior strait, her delivery was completed by the application of the forceps. In the third another physician attended her, and, as I am informed, her labour continued with violence for fifteen or sixteen hours, and the head not having engaged in the superior strait, the perforator was resorted to, and her delivery thus accomplished. These means became necessary in consequence of the size of the fœtuses, each one being of increased magnitude. Some ten or twelve months after this, she became pregnant again, and was very anxious about her own and her infant's safety. At this period I recommended to her Dr. Holcombe's method for diminishing the size of the fœtus, which to her was not very acceptable. Having seen her husband on the 4th ult., I prescribed best olive oil, a wineglassful two or three times per day—*pro re nata*—and promised to visit her as soon as convenient. Accordingly on the ninth I visited her and found her much agitated on the subject of my call. I then proposed to her the induction of premature labour between the seventh and eighth month of gestation: setting forth to her the prospect of alleviating her sufferings and saving the life of her infant—her own dangers also were not forgotten. She had the matter in solemn and serious consideration, till the 5th inst., when I visited her again, and she accepted the proposition I had made. Feeling that a greater degree of responsibility rested on me in this than in an ordinary case, I requested that another respectable physician be present on the occasion. Accordingly my respected friend Dr. D. S. Stephenson, of this place, on the 8th inst. accompanied me to her residence, some five or six miles distant; and in the evening, between the hours of six and seven o'clock, my friend and self having made an examination, *per vaginam*, found the parts disposed to harmonize in the undertaking—the mucous surfaces lubricated with mucus, and the *os tinæ* soft and disposed to dilate. The writer then ruptured the membranes by introducing a female catheter through the *os tinæ* and puncturing them with a wire; my friend having first given his assent to the propriety of the operation.

At the instant a portion of the liquor amnii escaped, and continued to discharge at intervals for several hours—contractions of the uterus were experienced shortly after the operation, but so slight, that during Thursday and Friday nights she enjoyed several hours refreshing sleep. Saturday morning, 5 o'clock, she awoke with pain, which continued regularly with increasing strength and frequency. Nine o'clock, the *os uteri* was dilated so as to admit the point of the fore and its fellow finger. At this period the presentation could not be satisfactorily ascertained. But, after the lapse of two or three hours, it was recognized to be a breech, with the right hip to the left acetabulum, and the left hip to the right sacro-iliac symphysis. At the next examination, the left elbow was discovered in connection with the left hip—which being pressed back in the absence of

pain, the breech came down and occupied the superior strait exclusively. This intruder, however, made its appearance frequently in the course of the labour, and was somewhat troublesome; requiring strict attention to keep it above the brim of the pelvis. At this period, to my mind and that of my friend, the prospect for the life of the child was gloomy; but after the breech fairly engaged in the pelvis, the pains became brisk and efficient, so that by five o'clock in the evening she was delivered of a living vigorous female infant, which from its appearance (we presume) would have more than equalled in magnitude, any of its predecessors,—after a gestation of seven months and seven days. We take her own reckoning, which, she says, she knows is accurate. It is scarcely necessary to remark that had this been a vertex presentation, the labour would have been comparatively easy, and of much shorter duration. But from what we know of this woman's former labours—the size of her children—her contracted pelvis and diminished strength, had she been permitted to go the full term of utero-gestation her delivery would have been a solemn and serious task. But as the method adopted in this case has fulfilled the most sanguine expectations of my friend and self, we are truly gratified—and the husband and wife, friends and relatives are all thankful that Divine Providence has smiled upon the means used to alleviate the mother's sufferings, and save the life of her infant; both of whom are doing well.

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*Case of Twins in which both placenta were expelled previous to the delivery of the last fetus, without consequent hæmorrhage.*—By SAMUEL TYLER, M. D., of Frederick, Md. [Communicated through Prof. Hodge.]

My father was requested to attend a female in labour on the morning of the 6th July, 1843, 10 o'clock, A. M. She had been delivered by her mistress two hours before (8 o'clock, A. M.) of a fine child. In a reasonable time after the expulsion of the fetus, the placenta was discharged. The mistress observed that the placenta presented an unusual appearance and that the cord seemed larger than natural, but it was not until she had divided the funis, that she discovered there was another fetus "in utero," and that she had mistaken a double placenta and a double cord for an enlarged condition of those two important organs.

When my father arrived, he made an examination per vaginam and discovered that the remaining fetus presented the left shoulder. It was then more than an hour since the cord had been severed, and of course the life of the fetus destroyed. In addition to the unfavourable circumstance of a shoulder presentation, there was firm hour-glass contraction of the uterine fibres around the body of the child. Having, in conjunction with the means usually calculated to relieve so firm a contraction of muscular fibre, made many unsuccessful efforts to turn the fetus in order to convert it into a footling or breech case, he sent for me. On my arrival, I soon discovered (indeed it was for that purpose he sent for me) that embryotomy offered the only relief to the suffering female. After making several equally ineffectual efforts at turning, I proceeded to perform the operation, which consisted in removing with the scalpel the left arm, at the shoulder joint, and then opening the thorax by a puncture or incision between two of the ribs, and thus partially evacuating its contents. The delivery was effected—after compressing the thorax and abdomen, by carrying up the right hand to the breech, passing the finger into the rec-

tum, bringing down the breech, and then finishing the delivery "*secundum artem*."

The patient was placed in a comfortable position, and every precaution taken to prevent or rather to relieve what seemed inevitable, viz: copious hæmorrhage; hour after hour passed by, the female continued comfortable and improving, and until the present time, more than four weeks since the delivery, not the slightest appearance of hæmorrhage has taken place, the abdomen is natural in size, and the female entirely recovered, and is nursing her infant.

Observe the peculiarity of such a result. Here is a case of twins, one child delivered easy and natural; both placenta coming away, thus leaving a double placental surface exposed, the cords are divided by mistake, and, consequently the vitality of the remaining fœtus destroyed—it presents under the most unfavourable circumstances, the shoulder being the descending portion—it is impossible to move or turn it, owing to rigid hour-glass contraction—remedies best calculated to produce relaxation are made use of, but not until embryotomy is performed is the patient relieved.

Here we have a case not merely of simple prævia placenta, but a double surface exposed, there having been two placenta; the fibres of the womb, first in a state of rigid contraction, then the irritation consequent upon the performance of embryotomy, and lastly a state of excessive relaxation, and still not a drop of hæmorrhage, and the female entirely recovered. I present this case, so interesting in its nature, so apparently formidable in its character, hoping that those under whose observation it may fall, will be induced to investigate the cause of so favourable a result.

I may be allowed here to add the great importance of an obstetrician always being in attendance upon a parturient female, no matter how simple the presentation, or how favourable the circumstances of her case. Had a practitioner been present at the commencement of the case just related, the life of a human being might have been saved, which was certainly sacrificed to ignorant midwifery—though the result to the female was as fortunate as could possibly occur.

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*The Spontaneous Expulsion of a large Polypus, two days after the delivery of a fine healthy male child.*—By JOHN DAVIS, M. D., of Smithville, Abbeville District, South Carolina.

May 23d, 1843: I was summoned to Mrs. C——, ætat. 32. When I arrived I found her to have been in labour twelve hours, with her fifth child. The presentation was natural; and the soft parts well dilated. The pains were, and I was informed, had been, pretty strong, for three hours previous to my arrival, yet they were irregular, intermitting, and of little effect. She was greatly exhausted by the continuance of her sufferings, and the violence of her exertions, and a serious question arose in my mind what I should do. If we would be governed by authors in general, it was a case in which the ergot might have been given with good effect. Considering the only difficulty, however, to depend upon the irregularity of the pains, I resolved to wait an hour or two, and see if nature herself would not accomplish the delivery; and to my great joy in half an hour the pains became more regular and forcible, and on examination I found the head advancing with a pretty fair prospect of a hasty delivery. It was now just entering the brim of the pelvis, when profuse hæmorrhage came



on, the woman sunk rapidly from copious loss of blood, the pains ceased almost entirely, and indeed the case became alarming. I ordered her such remedies as appeared most pressingly indicated, and in the course of half an hour the hæmorrhage ceased, the woman revived, the uterus regained its wonted powers, and in fifteen minutes more she was delivered of a large healthy male child. The after birth seemed to be slightly adherent, but was soon delivered with little difficulty, and without much hæmorrhage. In short all things seemed to do well, excepting the uncommonly severe after pains, which led me to place my hand over the abdomen, when I was a little surprised to find it but slightly diminished in size, especially immediately over the region of the womb. This led to a still further examination, *per vaginam*, and to my utter astonishment I discovered a large resisting tumour firmly impacted in the uterus. Satisfying myself as to its character I did not examine as to its location, as the soft parts were very tender to the touch, and as the patient was very much enfeebled; nor was it necessary, as that was not the proper time to search for a pedicle or neck, or if its location were ascertained, to apply the ligature.

I gave such directions as I conceived the case required at the time, and left the lady with the fullest assurance that I would see her as often as circumstances would permit. Late in the afternoon of the day following, however, I was requested to visit her in haste, "as her pains have returned with increased violence;" but before I arrived she was spontaneously delivered of a polypus, weighing eleven ounces, without the slightest hæmorrhage.

The polypus is now in my possession. Its pedicle or stem is about an inch long and about two in circumference: it is similar to a fungous excrescence, and is covered by a thick membrane. It is full of large veins, and arteries, some of the former being varicose.

This is the 19th of June, 1843, and the lady has recovered entirely; and says she feels much stronger than she did during the four last months of her pregnancy. She also states that she was not aware of there being any thing wrong about her womb till after she was three months gone, at which time it seemed to be fuller than ordinarily at that stage of pregnancy: and there was also a slight vaginal secretion. These seem to be the only signs, of which she is aware, that could be considered as symptoms of the disease. She is of a stout, robust constitution; and her general health has been good from her infancy with slight exceptions.

The present case, it is conceived, has several points of interest;\* and if it should be worthy of your consideration, and a place in your able journal, it is at your service.

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*Effects of a large dose of Arsenic taken by a Lunatic.* By A. B. SHIPMAN, M. D., of Cortlandville, N. Y.

In the year 1838, a gentleman who had been insane two or three years, the cause of which was probably ill health from disorder of the digestive organs, acting upon a nervous temperament, took a teaspoonful of the white oxide of arsenic with a view of destroying himself. It was taken immediately after eating a hearty dinner, and washed down with a draught of water. Soon after, or within half an hour, he vomited freely, and in the

\* The above is merely a summary of the facts as they actually occurred, without comment.

course of the day a diarrhœa set in, which followed him a day or two. He then informed his medical attendant of what he had taken, and his regret and contrition at the act. All this time he experienced but little of what could be attributed to the poison, the diarrhœa was not attended with any thing peculiar, he had eaten his usual meals with a tolerable relish, and complained of no unusual burning or pain in the stomach and bowels. Within a week or so he was taken with severe pain in his legs and arms, which he described as most excruciating, the sensation he compared to the gnawing of rats, or the boring of a gimblet into the bones—there was some swelling of the legs and feet, but no preternatural heat. After the pain had continued some days, a partial paralysis of the limbs was observed. He took various medicines, mostly of the anodyne class, with stimulating liniments and frictions, which were persevered in for a length of time. The paralysis however remained obstinate for months. The strychnine was finally given, and continued several weeks. The paralysis gradually left him, and he regained his health and resumed his business as a merchant. But what was most curious to the physician, and to the patient of the most importance, was the complete restoration of his reason and ultimately his health. Previous to his insanity he was of a reserved and cautious disposition,—was taciturn, diffident, and exemplary in his conduct,—was on the point of contracting an eligible matrimonial engagement,—his pecuniary circumstances were unembarrassed. Yet all at once he became talkative, boisterous, and mirthful. Entered into speculations, contracted for farms and property which he did not want, supposed himself in possession of immense sums of money, and that his speculations would conduct him to boundless wealth. He insisted upon his marriage taking place immediately—invited every body he saw to attend his wedding. His marriage finally took place, as his friends imagined it might be a means of restoring him, or an exasperation of his malady a result of his wishes being thwarted. But these palmy days of ideal wealth and splendour soon wore away, and he sank down a gloomy, desponding, and dejected lunatic, unfit for business or society. He was however harmless, and lived with his wife for two or three years, attending to no business. He was in this state when he took what he imagined would be his last dose, but which in all probability was the means of restoring him to reason. Since that period, there has been no signs of insanity, and his health has been good since the removal of the paralysis from his limbs. He has resumed his business as a merchant, and conducts it judiciously and with success.

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*Extraordinary case of Monstrosity, consisting in a plurality of toes (seven) on each foot.* By R. C. MARTIN, M. D., of Wilkesboro, N. C.

Lowery Hawkins, ætat. 14, came to my office, from the country, on the 22d June, 1843, for the purpose of having two of his extra toes amputated—having on each foot an extra great and little toe, making 14 in all.

Lowery states that his mother (Sarah Hawkins) has six toes on each foot, and so distorted as to have prevented her from ever wearing shoes;

that she attributes her extraordinary vice of conformation, to the influence of maternal imagination during utero-gestation.

He says that he, also, has never been able to wear either socks or shoes, in consequence of which he suffers much during the winter season, and is very desirous to have the extra toes taken off. On examination I found that the supernumerary great toe on the right foot, came out or stood off at a right angle with the foot and toes (*see fig.*)—that it had, like a natural toe, two phalanges, but had no tendon or muscle extending to it, and of course the will had no influence on it; but what is more remarkable, the shape of the toe-nail, &c. had more the appearance of a thumb than a toe.

The extra great toe on the left foot differed from the right in coming out at a more acute angle, and having more the appearance of a natural toe. There was nothing peculiar about the extra little toes, except that they had no muscles extending to them. The feet were somewhat shorter and wider, particularly across the toes, than usual.

I amputated both of the great toes, on the morning of the 23d, at their articulations with their metatarsal bones; there was very little hemorrhage, and the patient did not suffer much pain from the operation.

The lips of the wounds were approximated and held in situ with adhesive strips; they healed partially by the first intention—the patient suffering little or no subsequent pain, and on the 4th of July he walked home, a distance of twelve miles, his feet being nearly or quite well, having on, for the first time in his life, shoes and stockings, and much gratified with the improved appearance of his feet.

Wilkesboro, N. C., Aug. 22d, 1843.



Extreme width from *a* to *b*,  $5\frac{1}{2}$  inches. Extreme length from *c* to *d*,  $8\frac{1}{2}$  in. Breadth of the plantar surface of the toes  $\frac{1}{2}$  inches, from *e* to *f*.

## DOMESTIC SUMMARY.

*Induction of Premature Labour, without Rupture of the Membranes.*—DR. HENRY G. CLARK reported to the Boston Society for Medical Improvement, Nov. 28, 1842, the following interesting case of induction of premature labour:—

“Mrs. S., æt. 30, from St. John, N. B., consulted me in May last; she was pregnant with her sixth child, and had always great difficulty in labour, only one of the five having been born alive, and that at 7 months, a female, now living, and 10 years of age.

“I had myself attended in her fourth confinement in 1837. I then found her to have a pelvis contracted in its conjugate diameter to less than 3 inches, by the projection of the promontory of the sacrum. She is short, of awkward figure, and has also lateral curvature of the spine. It became necessary to resort to perforation of the head at that time—delivery being otherwise impossible.

“At her last confinement, two and a half years since, she went to her native town, where, she informs me, it was thought proper by her attendants there, after three days sickness, to have recourse to the same measures. She did not recover from this for some months.

“It seemed to me that this was a proper case for the induction of premature labour. I therefore proposed it to her as the safest course for herself—as the



only one for the child. She readily consented to submit to this or any other procedure which might be deemed necessary.

"Nov. 22d. Dr. Townsend saw her this day in consultation, and confirmed my opinion.

"I proposed to myself the following method, viz.: 1st, to remove the viscid mucus which is found about the cervix uteri, and to dilate and irritate the parts moderately by the fingers, at certain intervals, until some effect should be produced. In addition, if this should not be sufficient to bring on the first stage of labour, to use the ointment of belladonna, and 2dly, as soon as this should be accomplished, to exhibit, at regular periods, small doses of ergot to excite natural uterine action.

"The last menstrual period was passed March 25th, so that she had now progressed nearly eight months.

"This morning, ordered a brisk cathartic. In the evening, I called again and made an examination. The finger was insinuated into the os uteri, and the secretions thoroughly removed. Considerable pain was excited by this operation, which continued at intervals for an hour, and then ceased.

"Nov. 23d, 9 A. M. Patient slept well all night, and has no pain to-day. Upon examination, the os uteri was found to be more relaxed than last night, and readily admitted two fingers to be passed to the membranes. They were retained there, and the dilatation persevered in for 15 or 20 minutes. By this manipulation, two or three slight but distinct propulsive pains were produced. Pain continued after this more or less for three hours, but with no further bearing down. 10 P. M., os uteri more dilatable, and accompanied with some shortening of the cervix. Membranes easily felt, and, by the ballottement, what I suppose to be the head of the child.

"The dilatation now seemed to be sufficient to warrant the exhibition of the ergot—ten grains were accordingly given in decoction.

"24th. Patient reports violent pains in the back, loins and hips all night. None in abdomen. These pains have now abated and she is quite easy. Dilatation increased a little. Directed her to rest until 2 o'clock, and then to take 5 grains of ergot, and to repeat the same dose at 5 P. M. Regular propulsive pains came on at 6 o'clock, and continued until the labour was safely accomplished at 1 A. M. The infant was a lively boy, weighing 6½ lbs. The waters were not discharged until a little after midnight. The head, notwithstanding its small size, and in spite of remarkably strong pains, was firmly lodged in the narrowed upper strait for an hour and a half after the os uteri was well dilated, and showed marks of severe treatment during its passage. It was not at all ergotized.

"Dec. Mother and child well.

"In this case, I believe either of the methods usually practised would have been unsuccessful. If the membranes had been ruptured at first, the head would have fallen into the upper strait, and the child fallen a victim to its fatal compression there.

"If ergot alone had been given, either the object would not have been accomplished, or some grievous injury might have been inflicted on the mother. It is a very good rule in natural labour, 'not to give ergot until the os uteri is well dilated.' How much more should it be observed in these cases where no effort of nature has been made, and where labour has not even commenced!

"At any rate, the method adopted in this instance seemed to produce results nearly allied to those produced by nature herself, in carrying forward the same operation at the full period."—*New England Quarterly Journal of Medicine and Surgery*, April, 1843.

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*Strangulated Intestine from Rotation of the Sigmoid Flexure of the Colon.* By JACOB BIGELOW, M. D.—The Hon. HUGH S. LEGARE, Attorney-general of the United States, arrived in Boston on Friday, June 16th, and although fatigued by a hasty journey from Washington, was well enough to make calls on some friends in the evening. At 1 o'clock in the night he was seized with frequent abdominal pains, resembling those of colic, and called Dr. Thomas, of Washington, then lodging in the same hotel, to his assistance. During the remainder

of the night, and the whole of the next day and night, he was affected with pains alternating with intervals of ease, without constitutional disturbance, and agreeing in character with those of previous attacks to which he had been liable for more than two years, the last occurring in March preceding. Various laxatives and enemata were resorted to, together with counter-irritants, but without removal of the constipation and pain.

Early on Sunday morning I was called to meet Dr. Thomas at Mr. L.'s lodgings at the Tremont House. I found him then suffering frequent paroxysms of pain, which he referred mostly to the lower abdomen, without distinction of side, but which sometimes mounted above the umbilicus. The pulse was at this time 60, the skin natural, with no tenderness on deep pressure of the abdomen in any part, no meteorism, no nausea. Opiates and other remedies were proposed to him, but declined, on the ground that laxatives and mechanical means had relieved his former attacks. During the morning two doses of Epsom salt, with infusion of senna and tincture of hyoscyamus were given, with frequent enemata both aqueous and stimulating, without effect. The pains did not increase, but a troublesome degree of tenesmus made it necessary to suspend the enemata. Elastic tubes were passed throughout the rectum, and water injected through them in the manner recommended by Dr. O'Beirne, but they could not be carried into the sigmoid flexure. His strength meanwhile remained good and his general condition stationary.

At 6 P. M. he was removed without difficulty to the house of a friend, where he was immediately put into a warm bath of 106 deg., from which he expressed great relief and satisfaction. He was then put to bed, and 60 drops of laudanum were administered in two doses. In about an hour, the relief not being perfect, 40 drops of McMunn's elixir of opium were given, soon after which he fell into a quiet sleep, and so remained for about three hours. Conditional directions were given for repeating the opiate, but it was not found necessary till near morning, when he took 20 drops of the elixir and slept an hour or two more. On Monday morning at 5 o'clock, I found him more comfortable than before, skin temperate, pulse 64, abdomen not tender but beginning to be tympanitic. Castor oil and senna, with hyoscyamus, were now given and retained, and enemata, fomentations and sinapisms were resumed as before. The pain did not return with the same severity as before, but meteorism rapidly increased, with restlessness and tenderness on pressure. At 9 A. M. the pulse was 80, and before 12 it was 100. The face of things having become very serious, Dr. Thomas being absent from the city, I requested farther consultation, and Dr. Warren was called in. The abdomen was freely leeched and rubbed with croton oil. Various ineffectual attempts were made to overcome the obstruction of the intestine by the introduction of various tubes, by inflation of the rectum with a bellows, and by the tobacco injection administered twice. Under this last remedy he said he felt excited, was stronger but more agitated, and his pulse rose from 130 to 140, with increased force. Each injection contained half a drachm in infusion, and was retained nearly half an hour without narcotism or prostration. During the night the patient was restless, retaining his muscular strength in a considerable degree, and frequently getting up to the close stool in the belief of an approaching evacuation. There was never any vomiting nor nausea; the mind was clear, and the natural decisive tone of voice continued. He complained occasionally of a sense of burning at the epigastrium and upper abdomen. About half an hour before death he got up without assistance, and on lying down asked urgently for water. On receiving it, he pushed it away, saying it was filled with ants. A white paper was then shown him, to which he applied the same remark. On being told it was an illusion of sight, he put forth his hand for the glass, but missed it, said a few words incoherently, leaned back, and expired quietly at half past five.

*Autopsy seven hours after death.*—Externally the limbs were very rigid, and there was much lividity about the head and back. The abdomen was greatly distended. On laying it open the cavity seemed nearly filled by the sigmoid flexure of the large intestine, which extended across the abdomen into the right hypochondrium, and was in a state of such distension, that its external circum-

ference was in one place fifteen inches. It had a dusky green colour, as if from commencing gangrene, but there seemed to be no softening, nor diminution of the natural polish. The two extremities of the flexure connected with the colon above, and rectum below, were felt to be twisted together about the mesentery as an axis, into a firm cord or neck, about an inch in diameter; and on being carefully untwisted, the whole included portion was found to have made four turns, or two entire revolutions upon itself. There was no line of demarcation between the healthy and strangulated portions, nor was there any appearance externally of old disease about this part. The small intestine and the colon were moderately distended, but the rectum was rather contracted. The cavity of the peritoneum contained a small quantity of turbid reddish fluid, and in one place there was recent lymph upon the small intestine, but there were no other appearances of inflammation. Owing to the state of the body and the place of examination, the intestine was not opened, and no further dissection made.

*Remarks.*—Internal strangulation, we have reason to believe, is a fatal disease except in rare instances in which a spontaneous restoration of the parts may under favourable circumstances have taken place. But the resources of art are for the most part unavailing, from our ignorance at the time, of the nature and place of the lesion, and from the inaccessible situation of the part, unless by a dangerous operation, not to be justified under any diagnosis which can be seasonably made out. Among the various causes known to have occasioned strangulation, the rotation or twisting of the intestine is less common than some others. Yet in addition to the case which has now been described, two others have occurred in this city, under the observation of Drs. Hohnans and J. B. S. Jackson, the record of which I have seen, in which fatal strangulation occurred from the torsion or twisting of the sigmoid flexure.

Professor Rokitsansky, of Vienna, in a work on internal strangulations of the intestines, divides these lesions into three species. Of these, the second species consists in the rotation of one part round an axis most commonly formed by some other part. It appears to be the result of his experience that rotation round the mesentery as an axis can happen only to the small intestine.\* But it appears from the case above detailed, and the two others alluded to, that the large intestine is capable of undergoing this rotation, and from its anatomical position, no part seems more exposed to this change of situation than the sigmoid flexure.

From remarks made by Mr. Legare during his illness, it is believed that in some of his former attacks of colic and constipation, relief was obtained by the introduction of the elastic tube beyond the seat of the stricture. This happy result is to be ascribed to the spasmodic character of the obstruction then existing. But when the intestine is rendered impervious by mechanical strangulation, it is evident that an instrument would sooner perforate the coats of the canal, than admit of being forced through the closed and tortuous passage. In the present case, tubes, some of which were two feet in length, were introduced into the rectum, and water injected through them continually to facilitate their progress. But the more flexible tubes were bent into a coil in the rectum, and the more rigid ones were irresistibly stopped at the sigmoid flexure, and could not be further forced without danger of perforating the intestine, an accident well known to have followed injudicious and violent efforts.—*Boston Medical and Surgical Journal*, July 5, 1841.

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*Retained Placenta—Perforation of the Uterus.* The following interesting case of retained placenta, followed by perforation of the uterus and death, was communicated to the Boston Society for Medical Improvement, on the 26th December last. By D. HUMPHREYS STORER, M. D.

"On the 7th instant, at 5 A. M., Mrs. G., aged 21 years, after a labour of a few hours, was delivered of her first child. It was very small, and I should judge not to be more than eight months grown.

\* British and For. Med. Review, III. 496, 498.



"The uterus contracted well, but the placenta not being readily detached, I examined and found it firmly adherent, high up, to the uterus. After waiting several hours for its expulsion. I made an unsuccessful attempt to remove it by the hand. A small portion only was brought away. During the evening of the first day, my patient was seen by another practitioner, who also attempted to remove the placenta, with no greater success than myself, he being able to remove only a small portion, of the size perhaps of an *olive*. For the three first days my patient's symptoms caused me no alarm. During this period I administered  $\mathfrak{z}\text{i}$ . of ergot, in divided doses, and gave a cathartic of castor-oil. The lochia appeared, and continued to flow, and her breasts secreted milk. No pain nor difficulty was complained of—and although I visited my patient morning, noon, and evening, of each day, it was with the hope of learning that the placenta had been thrown off, and not with the expectation of finding her more sick.

"On the morning of the 10th inst., the commencement of the fourth day, I found the *pulse* had risen from 84 (which they were at 10 o'clock the previous evening) to 140. The *abdomen* was tympanitic, and pressure upon it produced considerable uneasiness; while *distinct pain* was caused in the uterus by the application of external force. The lochia and milk had disappeared, the respiration was hurried, and the countenance was distressed.

"Here was *peritonitis*—but how should I proceed? As in ordinary cases of this disease? What would be gained by *general bleeding*? The irritating cause would still be in the uterus, however much temporary benefit might be produced. I was unwilling to act alone—and Dr. Channing, in a few moments after my morning visit, saw my patient with me. He examined the uterus, but could remove nothing. After carefully investigating the case, he suggested the application of ten leeches over the region of the uterus, a hot Indian poultice to the remainder of the abdomen, and the continuance of injections of chloride of soda, which had been previously used, into the vagina. She seemed relieved during the afternoon—a Dover's powder was exhibited at night. In the morning she was decidedly better; the abdomen was less affected by pressure, and was less swollen; the pulse had fallen to 100; she had slept and perspired freely during the night. At noon of this, the 5th day, she was still more relieved, and could I have forgotten that the placenta was still in the uterus, I should really have felt that my patient would yet do well. In the afternoon of this day her pain gradually returned, and during the night it was mitigated only by opium. On the morning of the 6th day I found her in the greatest distress; the pain was intense. The tympanitis had greatly increased, and the respiration was laboured. During the whole forenoon of this day she suffered from constantly returning pains, after a longer or shorter intermission, which increased in their severity until they could scarcely be borne. These pains might readily be mistaken by a by-stander for labour pains. In the afternoon of this day her pains suddenly ceased, and did not again return; the distension of the abdomen increased, the respiration became more laboured, the pulse rose to 160, and she died the next evening.

"Upon examining the body after death, the fundus of the uterus was found to be in a state of ulceration, and projecting through it into the abdominal cavity, was seen a large portion of the placenta—the remainder still being contained within the cavity of the uterus. The body and neck of the uterus were not disorganized.

"The results of the two cases I have repeated to this Society show how great are the dangers to be feared from a retained placenta. In both cases I followed the advice of Blondell, and the dictates of my common sense—"to leave the placenta in the uterine cavity if it could not be removed without the risk of bruising or lacerating the uterus, not because it is not an evil to leave it there, but because to leave it in the uterus is a smaller evil than to abstract it with violence, and we had better abide by the smaller evil than expose ourselves to the greater evil, that of lacerating, bruising and killing."

"And in both cases the results were peculiar, and I feel could not have been averted.

"In the former case *tetanus* ensued.

"In the latter case, after the placenta had been retained for three days, attached to the fundus of the uterus, inflammation commenced—the parietes of the fundus became disorganized, and (probably on the 6th day) during a succession of severe uterine pains, gave way, and the placenta was partially protruded through them into the abdomen."—*N. E. Quart. Journ. Med. & Surg.*, April, 1843.

*Spina Bifida successfully treated by repeated Punctures.*—The following case of successful treatment of spina bifida, by Dr. ALEXANDER STEPHENS, is recorded in the second No. of the *New York Journal of Medicine and the Collateral Sciences*.

"October 17th, 1837.—An infant daughter of Mr. Leach, of Skeneateles, eight months old, was operated on by Dr. Stephens this morning for spina bifida. The tumour was seated over the upper part of the sacrum, about three and a half inches broad from side to side, nearly the same in a vertical direction, and rising about two inches above the surrounding surface, indented along the middle vertically by a thick irregular band of integument. The covering of the tumour was not healthy skin, but a peculiar thin membrane of a reddish colour, traversed by numerous vessels like varicose capillary veins. The healthy integument formed a hard edge at its line of union with the covering of the tumour. The whole swelling was somewhat pendulous, narrower at its base than about the middle, and in size held about the same relation to the size of the infant, as it did at the time of birth. It had been once punctured with a needle, when the child was only a few weeks old. The wound, which had never cicatrized fairly, is now covered with a sort of scab.

"In the operation to-day it was punctured with an iris knife, and about four ounces of clear serum tinged with a few drops of blood, issued from the puncture in the integuments. The child did not appear to suffer any inconvenience from the evacuation of serum, but it produced a slight sinking at the anterior fontanelle. The child's general health is good. There did not appear to be any deficiency of bone about the outer portion of the base of the tumour. The healthy integument mounted a few lines above the base, before giving place to the peculiar envelope above noticed.

"October 20th.—The tumour was again tapped on the right side. Not more than an ounce of serum escaped.

"October 21st.—The tumour was again punctured in three places along its lower edge on the verge of the sound skin. About four ounces of serum escaped without any bad symptoms. The tumour is now somewhat shrivelled, but the diminution does not appear equal to the amount of fluid evacuated.

"October 30th.—The fluid continued to ooze slowly for nearly twenty-four hours after the last punctures. Since that period, the child has been drooping and fretful, with some febrile symptoms, perhaps partly owing to her teeth. Recently, the sac of the tumour has become inflamed; and within two days, the child has been observed to keep her left leg drawn up, and to cry when it was disturbed. She has taken little or no medicine, excepting a slight dose of magnesia. The tumour is kept wet with a spirit-lotion. The anterior fontanelle is considerably depressed.

"The tumour was not punctured afterwards. The febrile symptoms and spasm of the muscles, soon subsided; and in a few days, the little patient returned with her parents to the country. At a second visit to the city in the spring, or summer following, the child was again presented to us for examination. The sac of water had disappeared, and all that remained of it, was a small bunch of indurated and corrugated integument.

"I think it important to state, that the fluid in the sac was discharged very slowly; at the rate of about three drops in a second, while about one-third of it was left behind; that slight pressure was made upon the tumour after each evacuation, and as far as was practicable in a restless child, maintained there; and that strict injunctions were given to keep the body in a horizontal position. Once,

when the head was suddenly elevated, soon after the tumour had been evacuated, a tendency to syncope and spasm was manifested, which disappeared as soon as the child's head was depressed.

*Remarks.*—Considering the analogy between spina bifida and hydrocele of the tunica vaginalis testis, and other serous sacs, we may anticipate a thickening and induration of the sac, with a corresponding degree of contraction in the former case, as well as in the latter. The desideratum then is, to open the sac and draw off the fluid safely. This leads to the inquiry—What are the dangers of the operation?

The first danger is the producing of syncope and spasms, by the too sudden removal of the pressure of the fluid upon the serous cavities in the ventricles and spinal marrow. The means of obviating this danger are, drawing the water off slowly, leaving some in the sac undischarged, keeping the patient in a horizontal position, and if necessary, making pressure upon the tumour and upon the head. With these precautions and resources, this danger cannot be deemed a formidable one.

The next danger of which I shall speak, is the occurrence of inflammation of the inner lining of the sac, extending peradventure to the spine and cerebral cavities. There was a period of two or three days of restlessness and feverishness in Mr. Leach's child, which I attributed to this cause, but which disappeared without any particular treatment. Of course, no prudent surgeon would repeat the puncture, until the effects of the previous operation had subsided.

The next question of which I shall speak, is of an entirely different kind, and I infer the possibility of it only from analogy, reasoning from what occurs in some cases of paracentesis abdominis; that is, an habitual increased secretion produced by repeatedly drawing off the water. I should judge, that such a state of things was to be obviated by increasing the degree of inflammation, and of course the thickening and contraction of the sac, after each puncture, by pressure sufficient for the purpose.

These considerations lead me to conclude, that the puncture of spina bifida may be made with very little danger and a fair prospect of success.

*Measurements of the Fœtal Cranium.*—At the Celebration of the Hundredth Anniversary of the American Philosophical Society, Dr. CHARLES D. MEIGS read an interesting communication on the measurements of the fœtal cranium, and presented a tabular statement of the measurements of one hundred and fifty heads of children, born *at term*, in the city of Philadelphia. It appeared from this:—

1. That the sum of his measurements of the occipito-frontal diameter was 729 inches, 7 lines; the mean 4 inches, 10 lines.

2. That the sum of his measurements of the bi-parietal diameter was 586 inches, 7 lines; the mean 3 inches, 11 lines.

3. That in 52 children, the occipito-frontal diameter was more than 5 inches, in 11 it was 5.1, in 8 it was 5.2, in 3 it was 5.3, in one 5.4, in one 5.6, in two 5.7, and in one 5.10.

4. That in 68 the bi-parietal diameter exceeded 4 inches, in 19 it was 4.1, in five 4.2, in six 4.3, in three 4.4, in one 4.5; in only one case was it less than 3.6: in that it was 3.4.

5. That the mean horizontal circumference of the head was 13.8, and the small or perpendicular circumference 11.5.

Dr. Meigs concluded with remarking, that perhaps in an ethnographical relation his measurement might possess a certain interest. It would be curious to preserve, from century to century, some accurate registers of the kind; and he ventured to hope, that upon many succeeding centennial sessions of the American Philosophical Society future members might be induced to present similar records.—*Proceedings of the American Philosophical Society.*



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# UNIVERSITY OF PENNSYLVANIA.

MEDICAL DEPARTMENT.—SESSION 1843-44.

The Lectures will commence on Monday, the 6th day of November, and be continued, under the following arrangement, to the middle of March ensuing:—

|                                                          |                             |
|----------------------------------------------------------|-----------------------------|
| Practice and Theory of Medicine, - - - - -               | by NATHANIEL CHAPMAN, M. D. |
| Chemistry, - - - - -                                     | " ROBERT HARE, M. D.        |
| Surgery, - - - - -                                       | " WILLIAM GIBSON, M. D.     |
| Anatomy, - - - - -                                       | " WILLIAM E. HORNER, M. D.  |
| Institutes of Medicine, - - - - -                        | " SAMUEL JACKSON, M. D.     |
| Materia Medica and Pharmacy, - - - - -                   | " GEORGE B. WOOD, M. D.     |
| Obstetrics and the Diseases of Women and Children, - - - | " HUGH L. HODGE, M. D.      |

A Course of Clinical Lectures and Demonstrations, in connexion with the above, is given at the very extensive and convenient Infirmary called the Philadelphia Hospital.

Clinical Medicine, - - - - - by W. W. GERHARD, M. D.

Clinical Surgery, - - - - - " Drs. GIBSON and HORNER.

Clinical Instruction in Medicine is also given from the 1st day of November to the 1st day of March by Dr. Wood, in the Pennsylvania Hospital, an institution which is well known as one of the largest and best conducted Infirmaries in the United States.

The rooms for Practical Anatomy will be opened October 1st, and continued so to the end of the Course. They are under the charge of PAUL BECK GODDARD, M. D., Demonstrator, with a supervision on the part of Dr. Horner.

Extensive cabinets on Anatomy, Materia Medica, Chemistry, Surgery, and Obstetrics exist.

The Professor of Materia Medica, besides his Cabinet, has an extensive and well furnished Conservatory, from which are exhibited, in the fresh and growing state, the native and exotic Medicinal Plants.

W. E. HORNER, M. D.,

*Dean of the Medical Faculty, 253 Chestnut Street, Philadelphia.*

OCT. 1st, 1843.

## MEDICAL INSTITUTE OF PHILADELPHIA, Locust Street, above Eleventh.

The Course of Lectures commenced on Wednesday, April 5th, and will continue until the last of October ensuing, with the exception of August, which is a vacation. Fee for all the branches, \$70. For the branches separately, \$10 each.

Lectures on the Practice of Medicine by N. Chapinan, M. D., and W. W. Gerhard, M. D. Anatomy, W. E. Horner, M. D. and Paul B. Goddard, M. D. General Pathology, Samuel Jackson, M. D., and Physiology, Meredith Clymer, M. D. Materia Medica and Therapeutics, John Bell, M. D. Chemistry, James B. Rogers, M. D. Obstetrics, and Diseases of Women and Children, Hugh L. Hodge, M. D. and William Harris, M. D. Principles and Practice of Surgery, Thomas Harris, M. D. and W. Poyntell Johnston, M. D.

W. E. HORNER, *Secretary.*

OCT 1st, 1843.

## JEFFERSON MEDICAL COLLEGE.

SESSION OF 1843-44.

The regular Course of Lectures will commence on Monday the 6th of November, and end on the last day of February.

ROBLEY DUNGLISON, M. D., *Professor of Institutes of Medicine, &c.*

ROBERT M. HUSTON, M. D., *Professor of Materia Medica and General Therapeutics.*

JOSEPH PANCOAST, M. D., *Professor of General, Descriptive, and Surgical Anatomy.*

JOHN K. MITCHELL, M. D., *Professor of Practice of Medicine.*

THOMAS D. MÜTTER, M. D., *Professor of Institutes and Practice of Surgery.*

CHARLES D. MEIGS, M. D., *Professor of Obstetrics and Diseases of Women and Children.*

FRANKLIN BACHE, M. D., *Professor of Chemistry.*

Lectures and Practical Illustrations will be given at the Philadelphia Hospital regularly through the Course by

DR. DUNGLISON *on Clinical Medicine,*

DR. PANCOAST *on Clinical Surgery,*

and at the Dispensary of the College, by Professors of the Institution.

R. M. HUSTON, M. D.,

*Dean of the Faculty.*

## TRANSYLVANIA UNIVERSITY, MEDICAL DEPARTMENT.

The course of instruction will open, as heretofore, on the 1st Monday of November, and close on the last day of February, under the following faculty, viz:

BENJ. W. DUDLEY, M. D., Professor of Anatomy and Surgery;  
JAMES C. CROSS, M. D., Professor of Institutes and Medical Jurisprudence;  
ELISHA BARTLETT, M. D., Professor of Theory and Practice;  
WM. H. RICHARDSON, M. D., Professor of Obstetrics and Diseases of Women and Children.

THOS. D. MITCHELL, M. D., Prof. Mat. Medica and Therapeutics, and Dean of Faculty.

ROBERT PETER, M. D., Professor of Chemistry and Pharmacy;

JAMES M. BUSH, M. D., Adjunct Professor of Anatomy and Surgery;

who will receive notes of good and solvent banks of the states whence the pupils come, without discount, for their several tickets, the aggregate sum of which is \$105. For the Matriculation and Library ticket of \$5, and the Graduation Fee of \$20, par funds are required. Boarding and Lodging, as heretofore, for two to three dollars per week. By order,

THOMAS D. MITCHELL, *Dean.*

LEXINGTON, Ky., June 1st, 1843.

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## MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.

The regular course of Lectures in this institution will be resumed on the second Monday in November.

|                                          |                             |
|------------------------------------------|-----------------------------|
| Anatomy, - - - - -                       | by T. E. HOLBROOK, M. D.    |
| Surgery, - - - - -                       | " E. GEDDINGS, M. D.        |
| Institutes and Practice of Medicine, - - | " S. HENRY DICKSON, M. D.   |
| Physiology, - - - - -                    | " JAMES MOULTRIE, M. D.     |
| Materia Medica, - - - - -                | " HENRY R. FROST, M. D.     |
| Obstetrics, - - - - -                    | " THOMAS G. PRIOLEAU, M. D. |
| Chemistry, - - - - -                     | " C. U. SHEPARD, M. D.      |

The school for Practical Anatomy has been reorganized, and will be under the charge of Drs. Holbrook and Ogier.

Clinical Instruction at the Marine Hospital and Almshouse.

HENRY R. FROST, *Dean.*

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## COLUMBIAN COLLEGE, DISTRICT OF COLUMBIA.

The lectures in the Medical Department of this institution will commence on the 1st Monday of November next, and continue until the first of March.

During this period, full courses will be delivered in the various branches of Medicine by

THOMAS SEWALL, M. D., *Professor of Pathology and the Practice of Medicine.*  
HARVEY LINDSLY, M. D., *Professor of Obstetrics and the Diseases of Women and Children.*

THOMAS MILLER, M. D., *Professor of Anatomy and Physiology.*

JNO. M. THOMAS, M. D., *Professor of Materia Medica and Therapeutics.*

FREDERICK HALL, M. D., LL. D., *Professor of Chemistry and Pharmacy.*

WM. P. JOHNSTON, M. D., *Professor of Surgery.*

SAML. C. SMOOT, M. D., *Demonstrator of Anatomy.*

The entire expense for a course of Lectures by all the Professors is \$70. Good board can be procured at from \$2 50 to \$3 00 per week.

FREDERICK HALL, M. D., *Dean.*

Washington, June 1st, 1843.













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